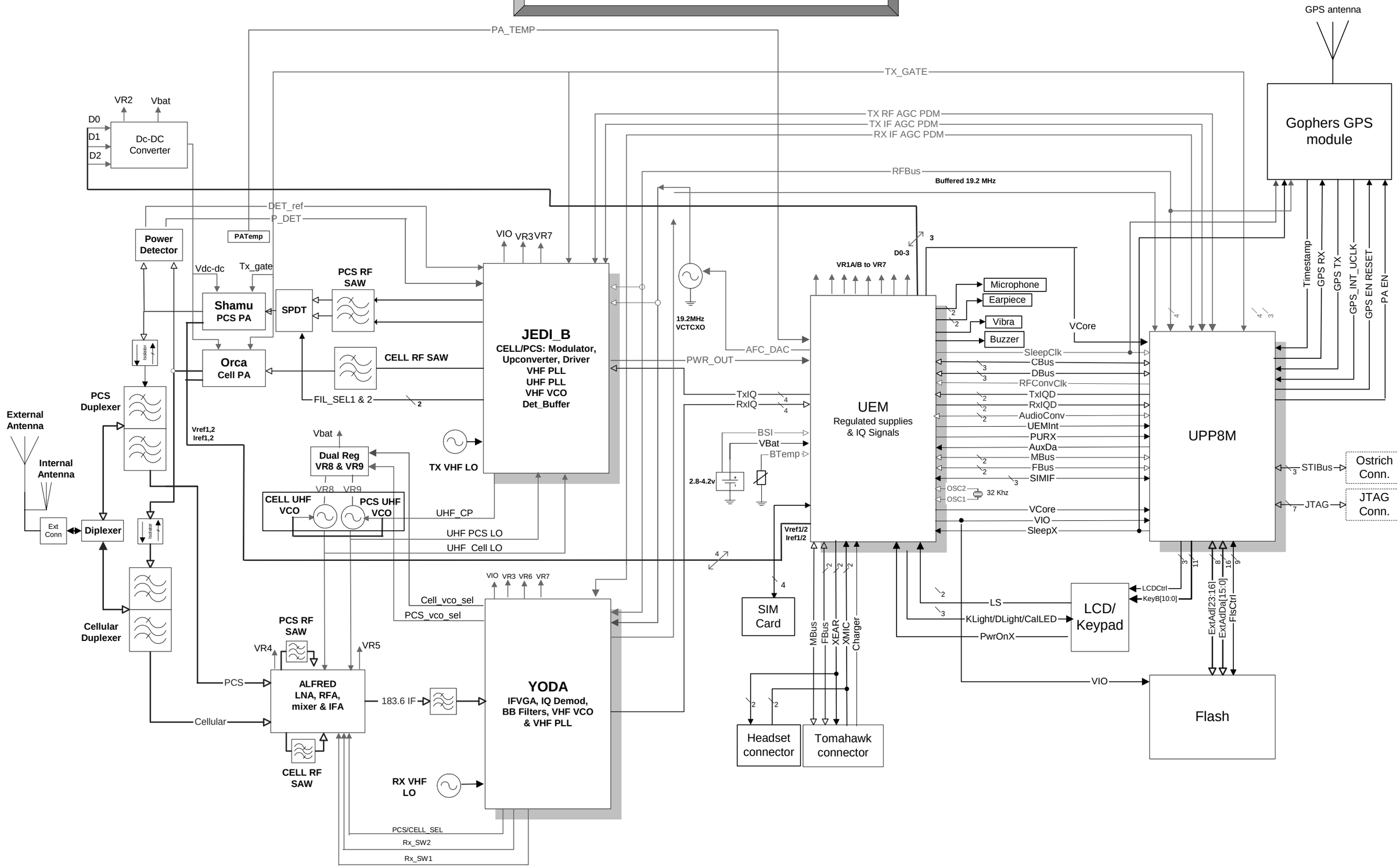
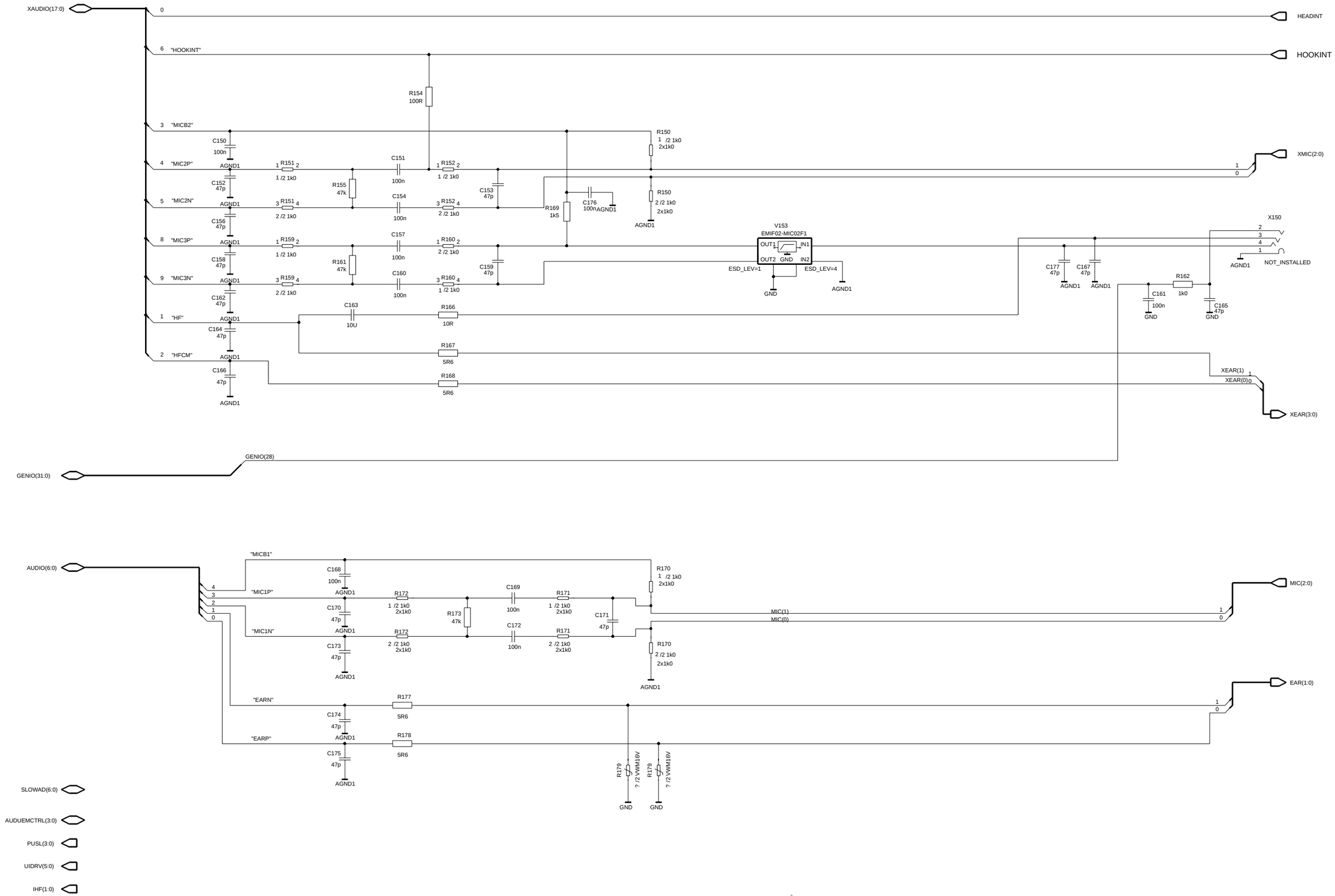
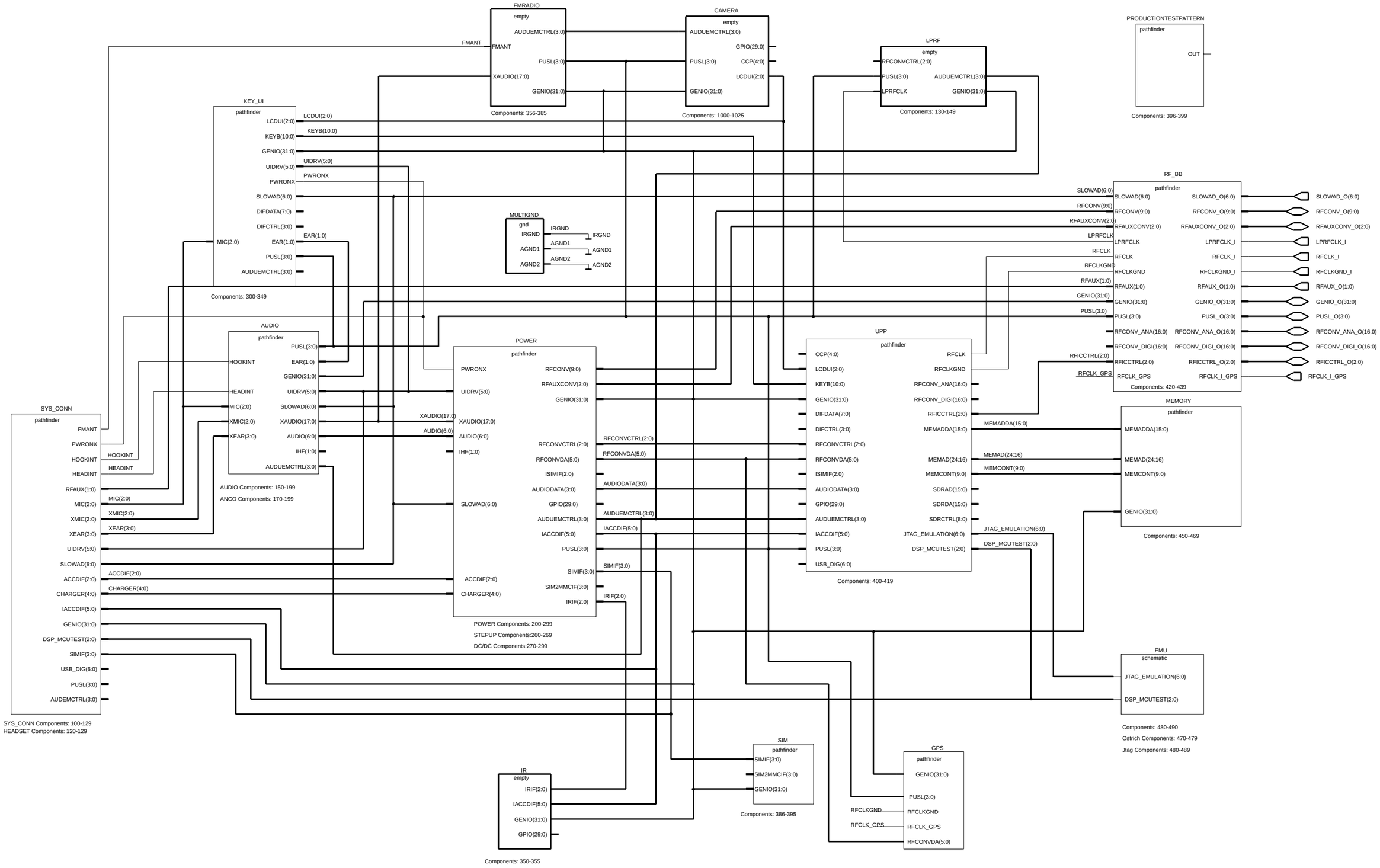
RH-3 Dual Band CDMA + GPS



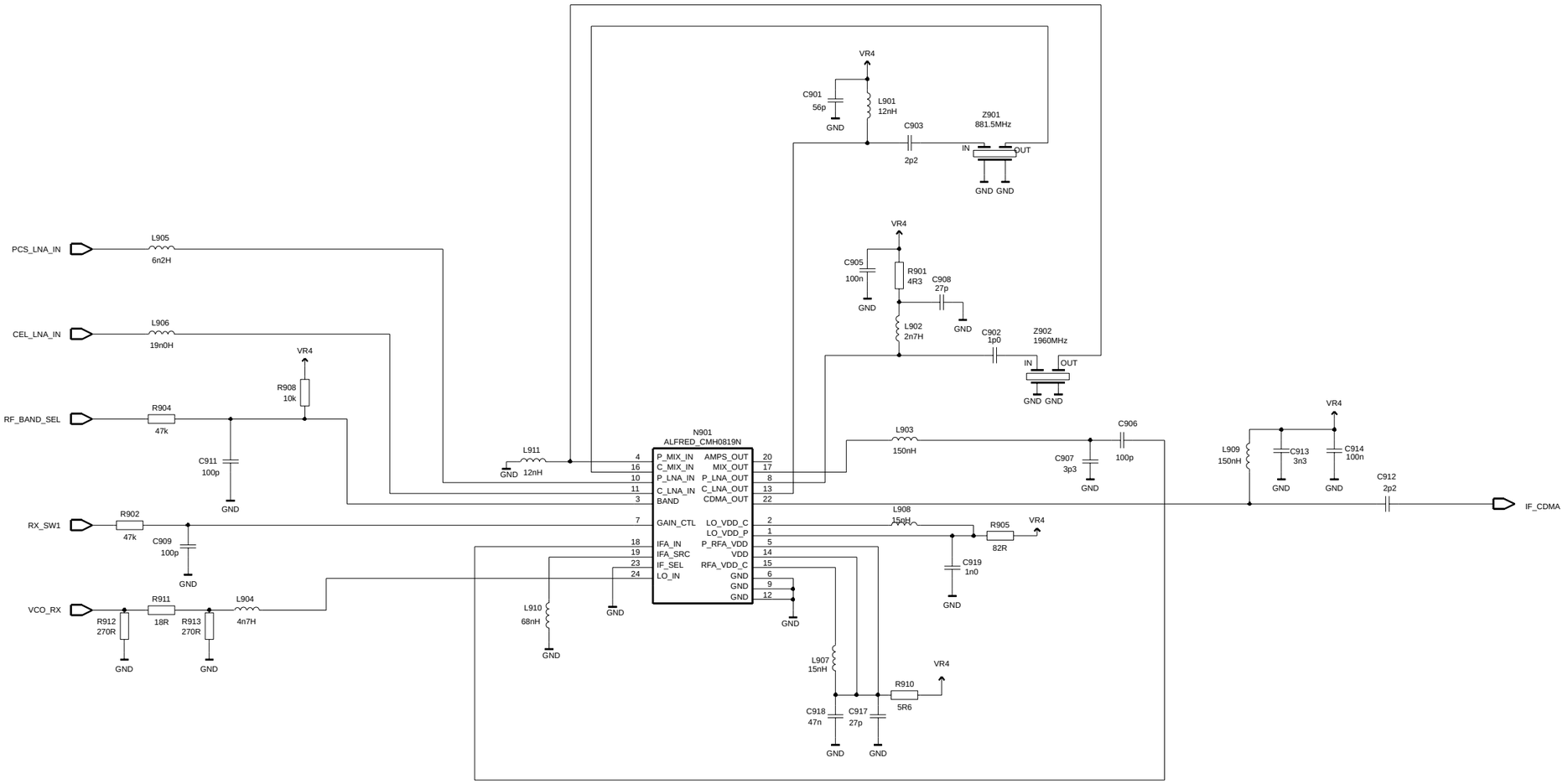
Audio


XAUDIO(17:0)
0
HEADINT
6
"HOOKINT"
HOOKINT
R154
100R
3
"MICB2"
C150
100n
R150
1 /2 1k0
2x1k0
4
"MIC2P"
AGND1
R151
1 /2 1k0
C151
100n
R152
1 /2 1k0
XMIC(2:0)
C152
47p
R155
47k
C153
47p
5
"MIC2N"
R151
2 /2 1k0
C154
100n
R152
2 /2 1k0
R169
1k5
C176
100n
R150
2 /2 1k0
2x1k0
V153
EMIF02-MIC02F1
OUT1
IN1
OUT2
GND
IN2
ESD_LEV=1
ESD_LEV=4
X150
NOT_INSTALLED
8
"MIC3P"
C156
47p
R159
1 /2 1k0
C157
100n
R160
2 /2 1k0
C177
47p
C167
47p
R162
1k0
C161
100n
C165
47p
C158
47p
R161
47k
C159
47p
9
"MIC3N"
R159
2 /2 1k0
C160
100n
R160
1 /2 1k0
C162
47p
1
"HF"
C163
10U
R166
10R
C164
47p
2
"HFCM"
R167
5R6
C166
47p
R168
5R6
XEAR(1)
XEAR(0)
XEAR(3:0)
GENIO(28)
GENIO(31:0)
"MICB1"
AUDIO(6:0)
C168
100n
R170
1 /2 1k0
2x1k0
"MIC1P"
R172
1 /2 1k0
2x1k0
C169
100n
R171
1 /2 1k0
2x1k0
MIC(2:0)
C170
47p
R173
47k
C171
47p
MIC(1)
MIC(0)
"MIC1N"
R172
2 /2 1k0
2x1k0
C172
100n
R171
2 /2 1k0
2x1k0
R170
2 /2 1k0
2x1k0
C173
47p
"EARN"
R177
5R6
EAR(1:0)
C174
47p
"EARP"
R178
5R6
C175
47p
R179
? /2 VWM16V
R179
? /2 VWM16V
SLOWAD(6:0)
AUDUEMCTRL(3:0)
PUSL(3:0)
UIDRV(5:0)
IHF(1:0)

Baseband - Top

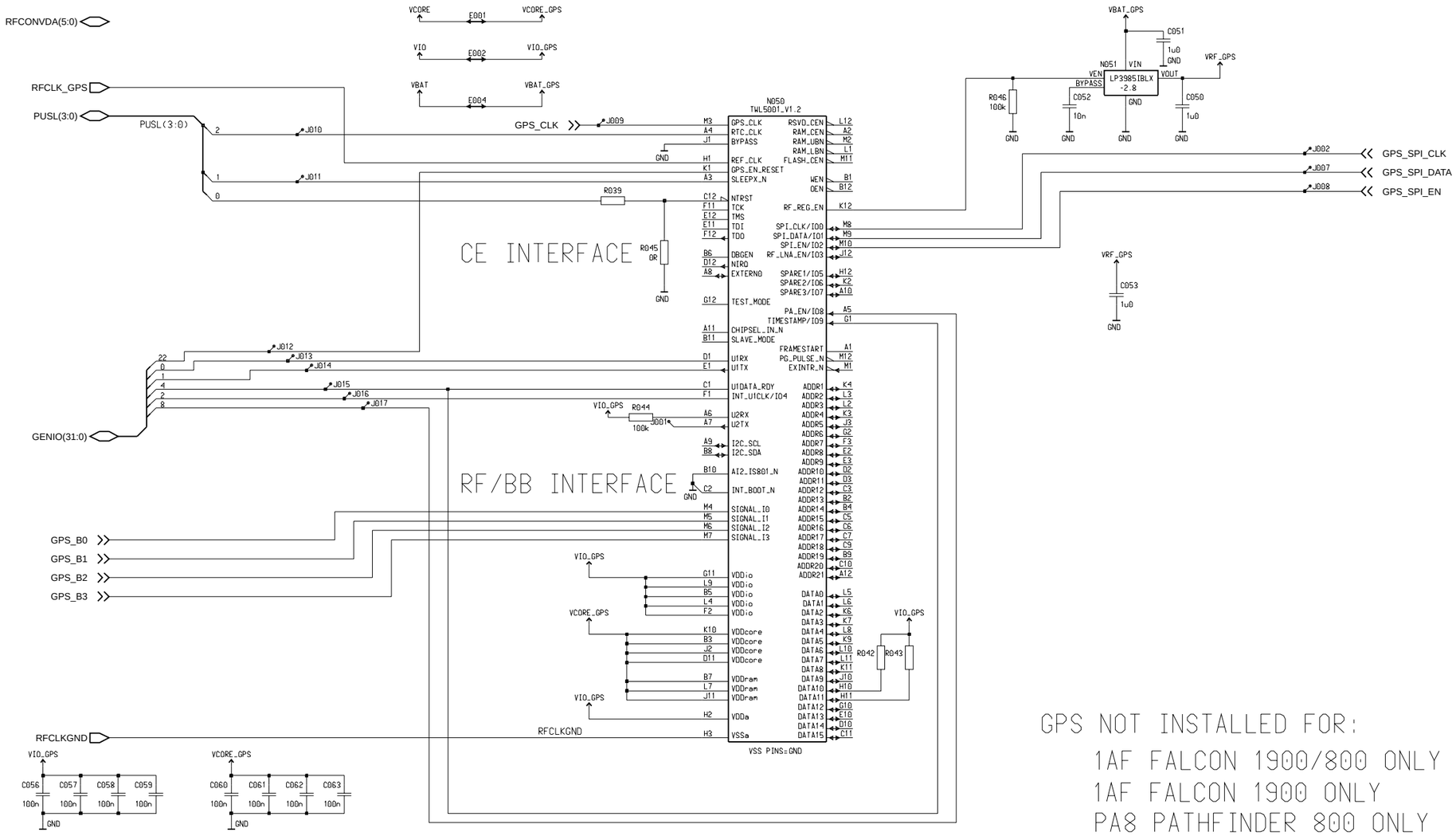


Front End



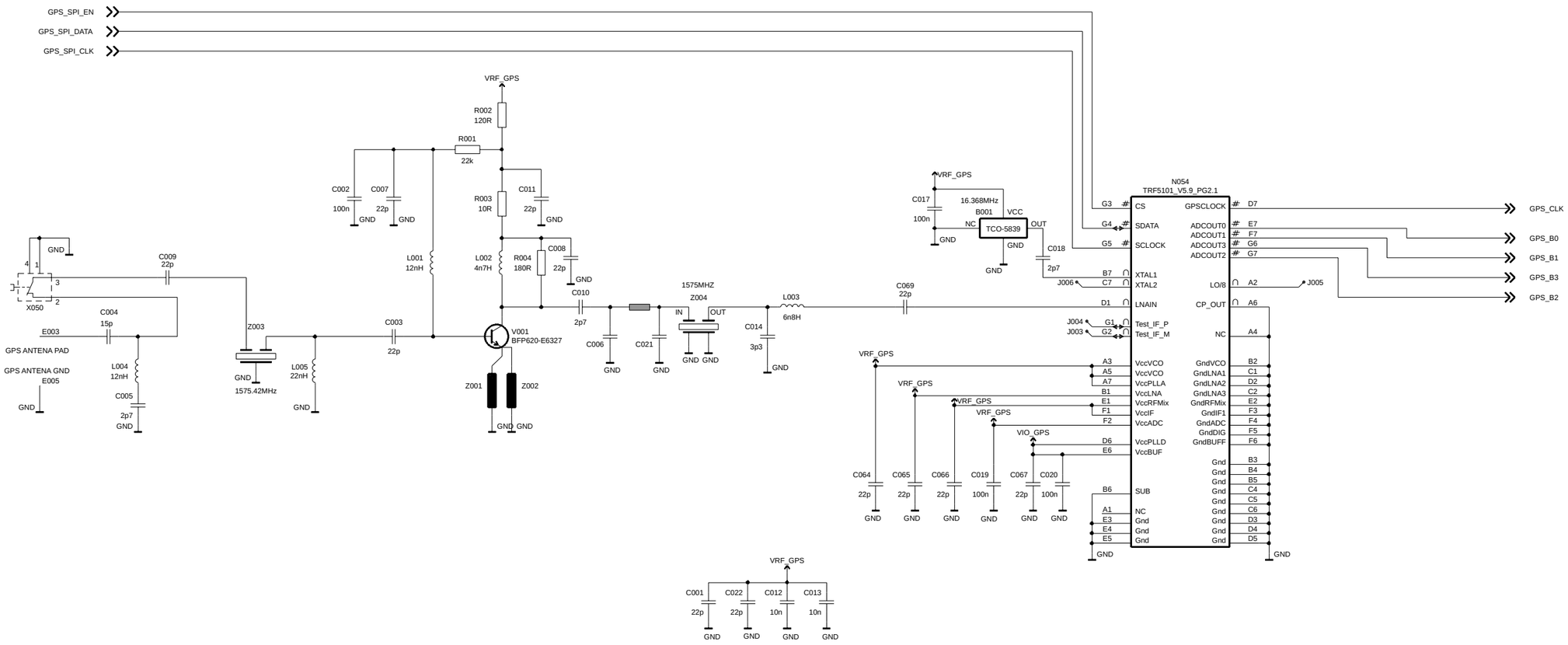
ALFRED

GPS Baseband

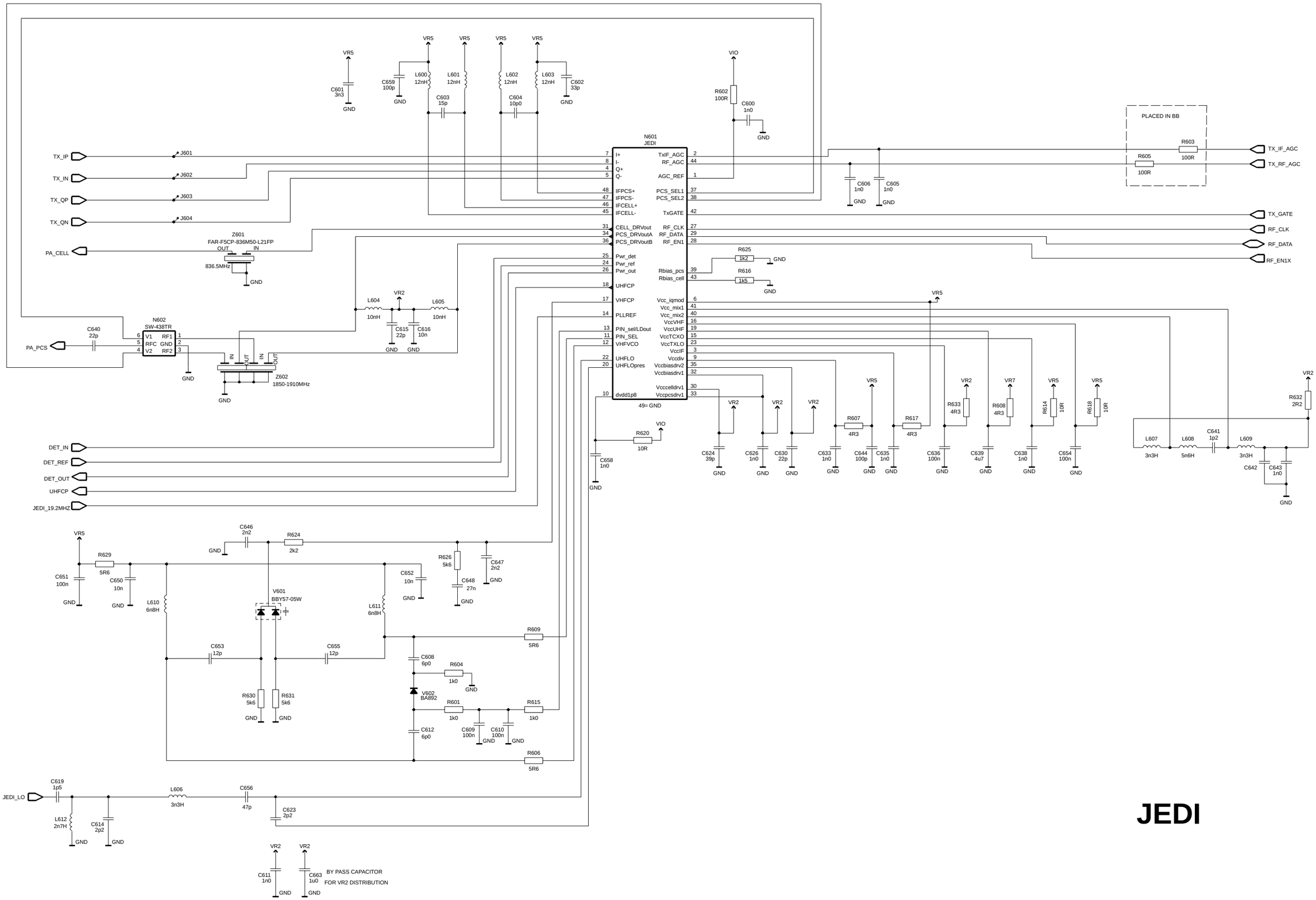


GPS NOT INSTALLED FOR:
1AF FALCON 1900/800 ONLY
1AF FALCON 1900 ONLY
PA8 PATHFINDER 800 ONLY

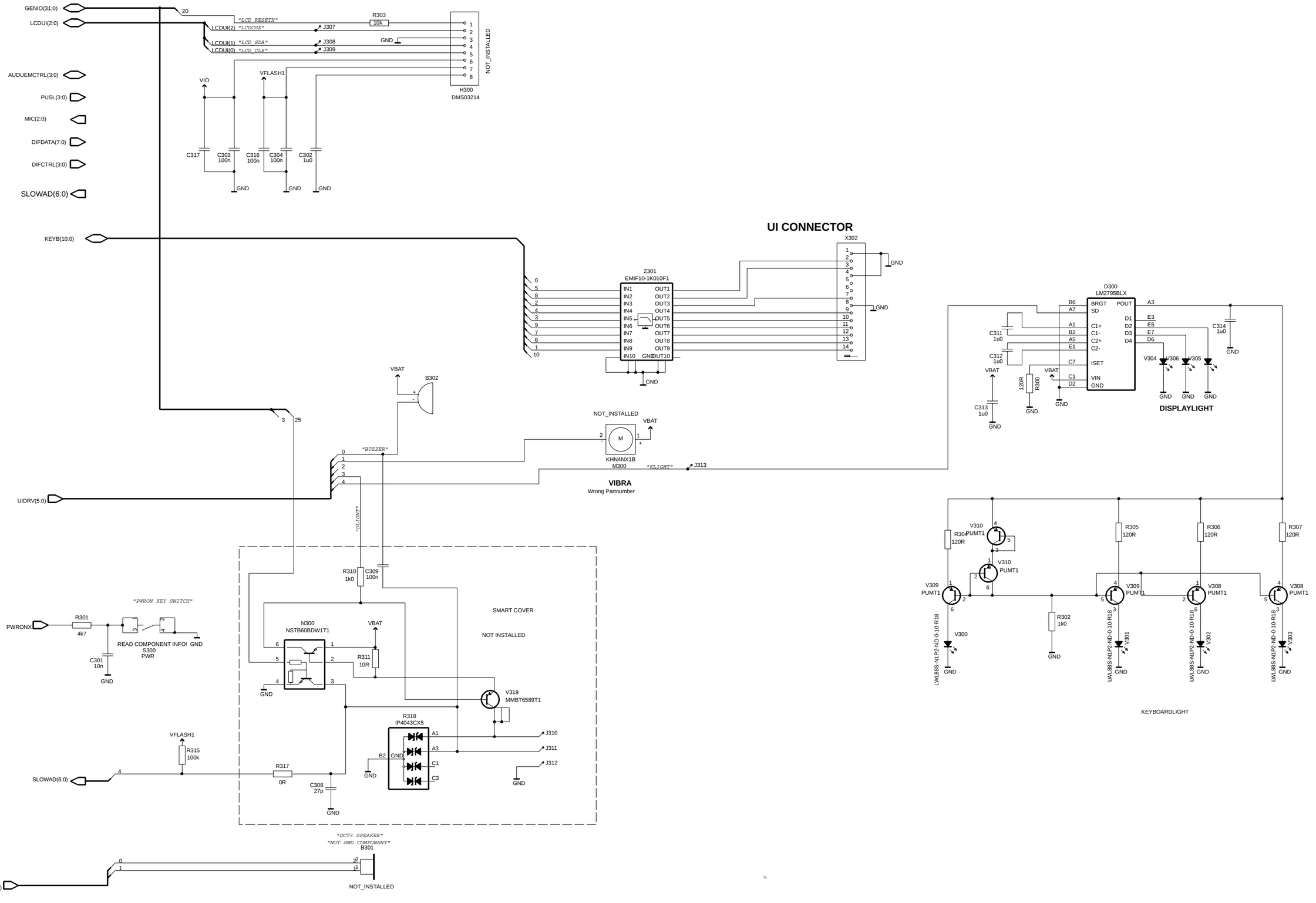
GPS RF


GPS_SPI_EN
GPS_SPI_DATA
GPS_SPI_CLK
VRF_GPS
R002 120R
R001 22k
C002 100n
C007 22p
C011 22p
R003 10R
L001 12nH
L002 4n7H
R004 180R
C008 22p
C010 2p7
1575MHZ
Z004
L003 6n8H
C009 22p
X050
C004 15p
E003
GPS ANTENA PAD
GPS ANTENA GND
E005
L004 12nH
C005 2p7
Z003
1575.42MHz
L005 22nH
C003 22p
V001 BFP620-E6327
Z001
Z002
C006
C021
C014 3p3
C069 22p
B001 16.368MHz
TCO-5839
C017 100n
C018 2p7
VIO_GPS
N054
TRF5101_V5.9_PG2.1
CS
SDATA
SCLOCK
XTAL1
XTAL2
LNAIN
Test_IF_P
Test_IF_M
VccVCO
VccPLLA
VccLNA
VccRFMix
VccIF
VccADC
VccPLLD
VccBUF
SUB
GPSCLOCK
ADCOUT0
ADCOUT1
ADCOUT3
ADCOUT2
LO/8
CP_OUT
NC
GndVCO
GndLNA1
GndLNA2
GndLNA3
GndRFMix
GndIF1
GndADC
GndDIG
GndBUFF
Gnd
J004
J003
J006
J005
C064 22p
C065 22p
C066 22p
C019 100n
C067 22p
C020 100n
GPS_CLK
GPS_B0
GPS_B1
GPS_B3
GPS_B2
C001 22p
C022 22p
C012 10n
C013 10n

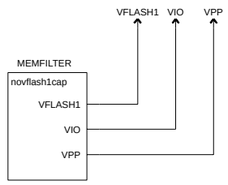
Jedi

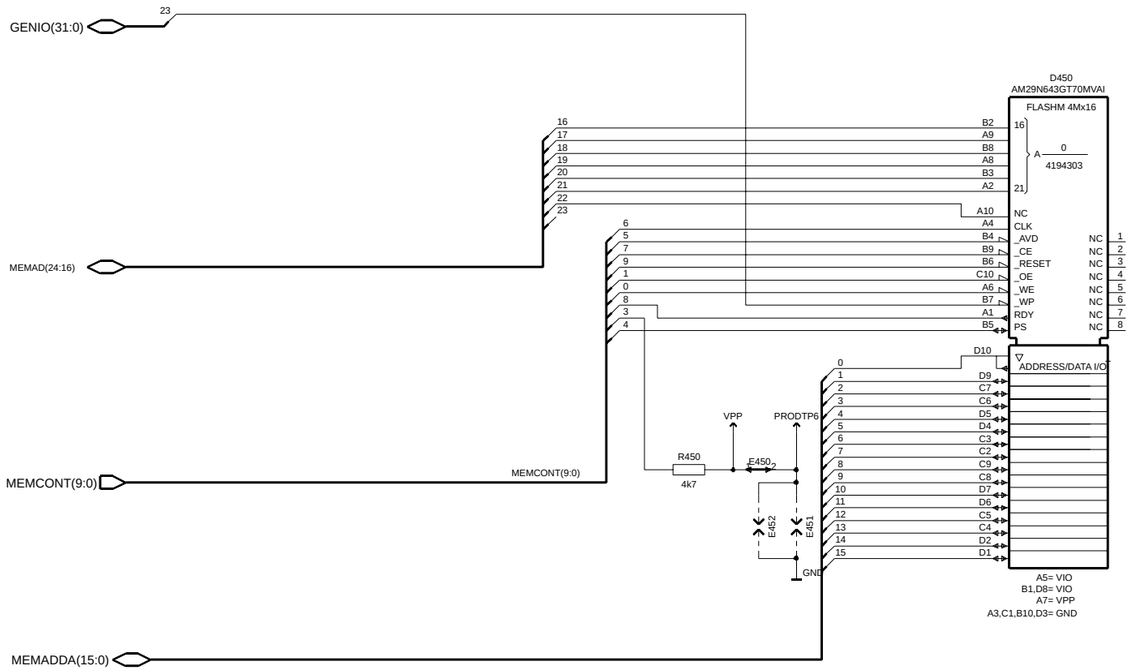

N601
JEDI
TX_IP
TX_IN
TX_QP
TX_QN
PA_CELL
PA_PCS
J601
J602
J603
J604
Z601
FAR-F5CP-836M50-L21FP
836.5MHz
N602
SW-438TR
Z602
1850-1910MHz
PLACED IN BB
TX_IF_AGC
TX_RF_AGC
TX_GATE
RF_CLK
RF_DATA
RF_EN1X
DET_IN
DET_REF
DET_OUT
UHFCP
JEDI_19.2MHZ
JEDI_LO
V601
BBY57-05W
V602
BA892
49= GND
JEDI

Key UI

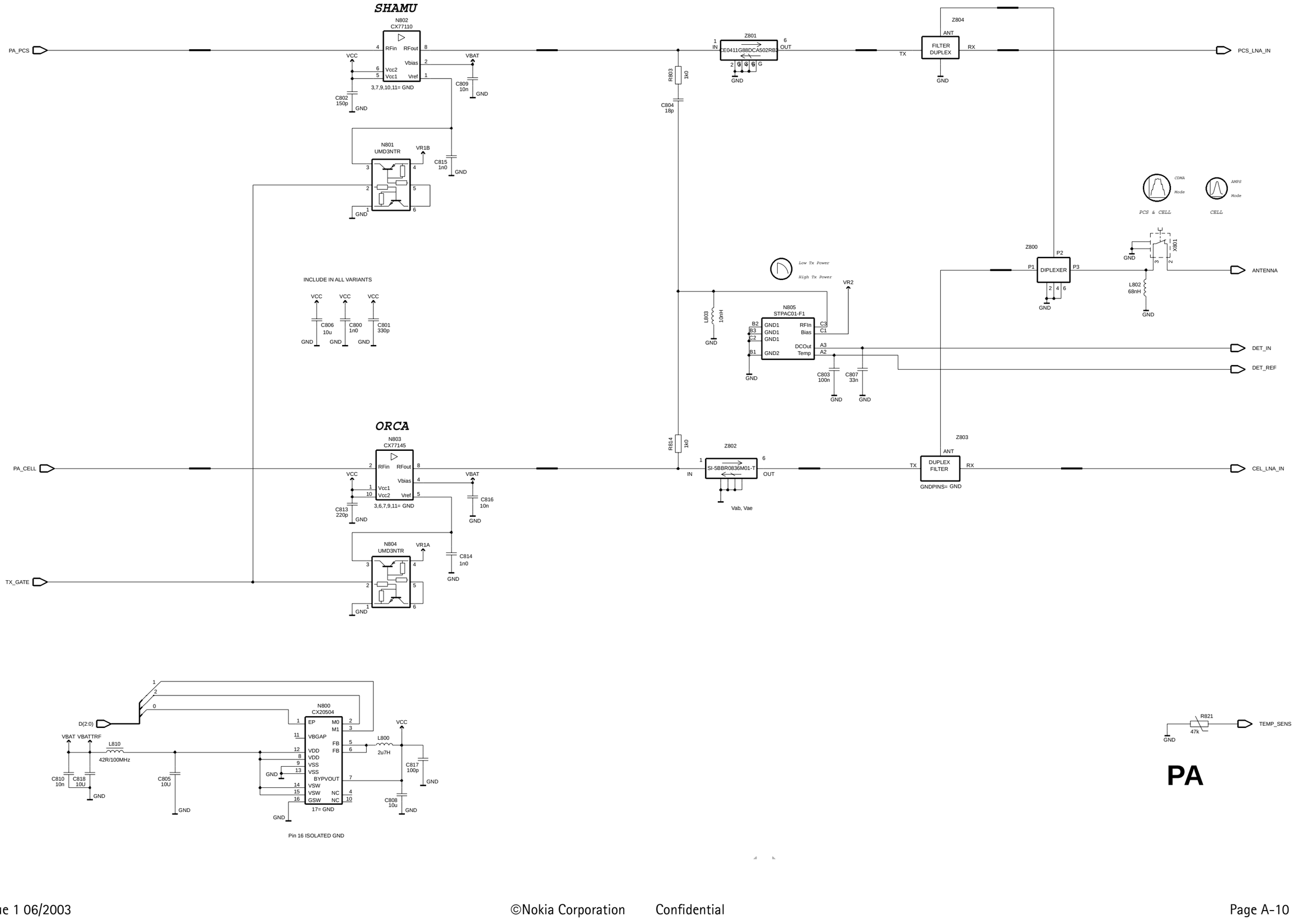

GENIO(31:0)
LCDUI(2:0)
AUDUEMCTRL(3:0)
PUSL(3:0)
MIC(2:0)
DIFDATA(7:0)
DIFCTRL(3:0)
SLOWAD(6:0)
KEYB(10:0)
UIDRV(5:0)
EAR(1:0)
"LCD_RESETX"
"LCDCSX"
"LCD_SDA"
"LCD_CLK"
R303
10k
J307
J308
J309
GND
VIO
VFLASH1
C317
C303 100n
C316 100n
C304 100n
C302 1u0
H300
DMS03214
NOT_INSTALLED
UI CONNECTOR
X302
Z301
EMIF10-1K010F1
VBAT
B302
"BUZZER"
"KLIGHT"
J313
VIBRA
Wrong Partnumber
M300
KHN4NX1B
"DLIGHT"
SMART COVER
NOT INSTALLED
R310 1k0
C309 100n
"PWRON KEY SWITCH"
PWRONX
R301 4k7
C301 10n
READ COMPONENT INFO!
S300 PWR
N300
NSTB60BDW1T1
R311 10R
V319
MMBT6589T1
R318
IP4043CX5
J310
J311
J312
R315 100k
R317 0R
C308 27p
SLOWAD(6:0)
"DCT3 SPEAKER"
"NOT SMD COMPONENT"
B301
D300
LM2795BLX
C311 1u0
C312 1u0
C313 1u0
C314 1u0
R20R
R300
DISPLAYLIGHT
V304
V306
V305
R304 120R
V310 PUMT1
R305 120R
R306 120R
R307 120R
V309 PUMT1
V308 PUMT1
R302 1k0
V300
V301
V302
V303
LWL88S-N1P2-ND-0-10-R18
KEYBOARDLIGHT

Memory

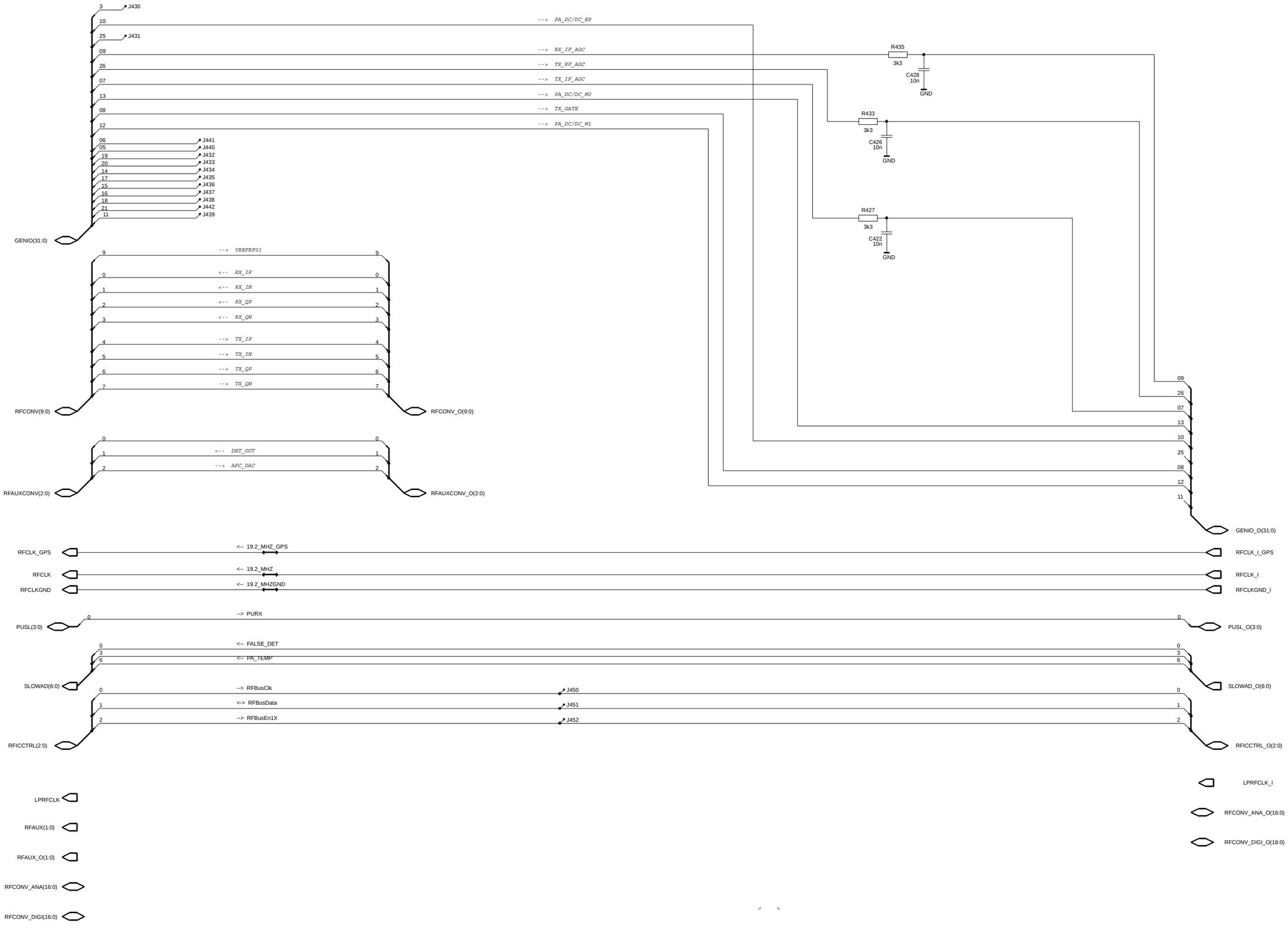

VFLASH1
VIO
VPP
MEMFILTER
novflash1cap
VFLASH1
VIO
VPP


GENIO(31:0)
23
MEMAD(24:16)
MEMCONT(9:0)
MEMADDA(15:0)
D450
AM29N643GT70MVAI
FLASHM 4Mx16
A 0 4194303
NC
CLK
_AVD
_CE
_RESET
_OE
_WE
_WP
RDY
PS
ADDRESS/DATA I/O
R450
4k7
VPP
PRODTP6
E450
E452
E451
GND
A5= VIO
B1,D8= VIO
A7= VPP
A3,C1,B10,D3= GND

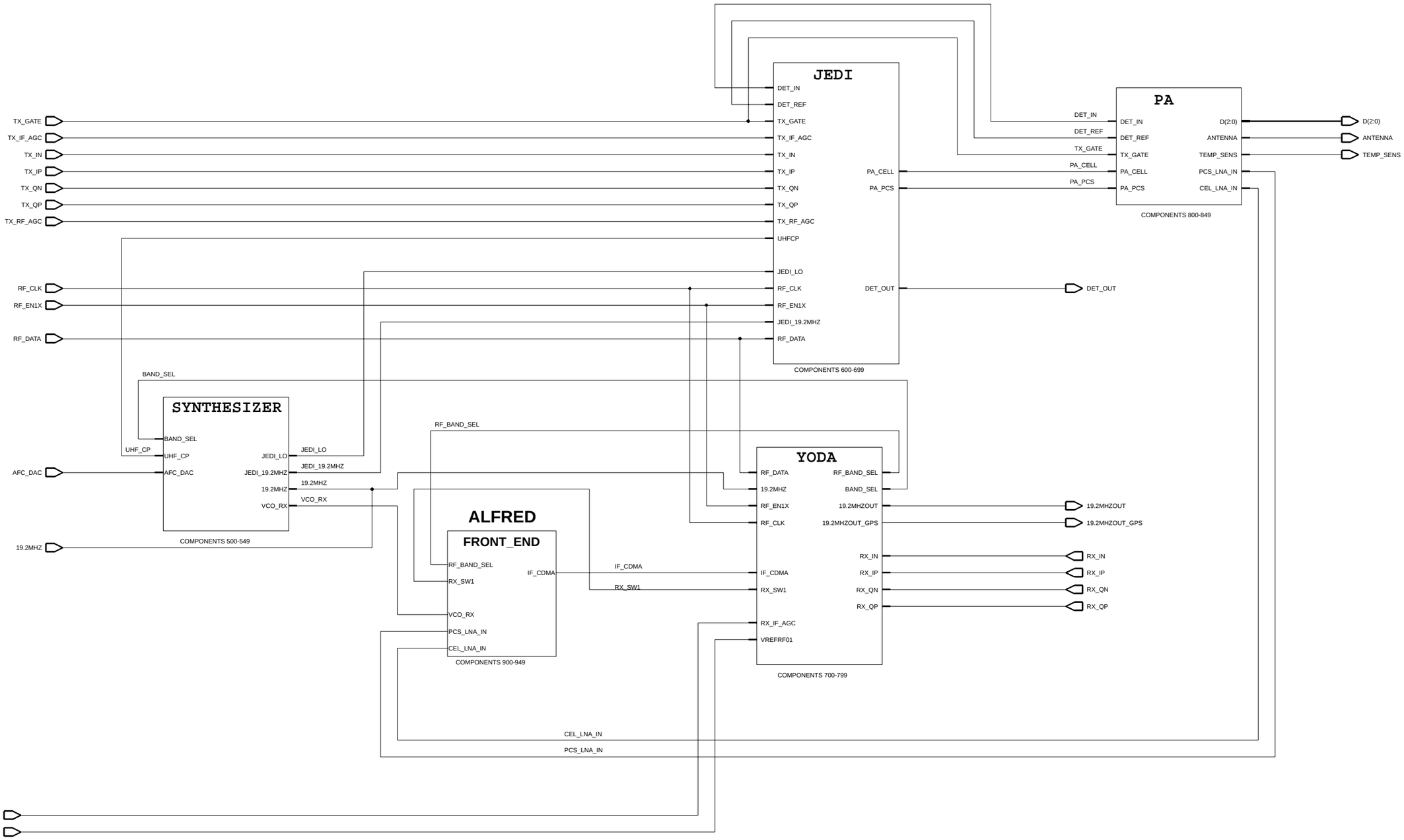
PA


SHAMU
N802
CX77110
PA_PCS
RFin
RFout
Vbias
Vcc2
Vcc1
Vref
VCC
VBAT
C802
150p
C809
10n
3,7,9,11= GND
N801
UMD3NTR
VR1B
C815
1n0
INCLUDE IN ALL VARIANTS
C806
10u
C800
1n0
C801
330p
ORCA
N803
CX77145
PA_CELL
C813
220p
C816
10n
N804
UMD3NTR
VR1A
C814
1n0
TX_GATE
3,6,7,9,11= GND
Z801
CE0411G88DCA502RB1
IN
OUT
R803
1k0
C804
18p
Z804
ANT
FILTER
DUPLEX
TX
RX
PCS_LNA_IN
Low Tx Power
High Tx Power
VR2
N805
STPAC01-F1
GND1
GND2
RFIn
Bias
DCOut
Temp
L803
10nH
C803
100n
C807
33n
Z800
DIPLEXER
P1
P2
P3
CDMA
Mode
AMPS
Mode
PCS & CELL
CELL
X801
L802
68nH
ANTENNA
DET_IN
DET_REF
R814
1k0
Z802
SI-5BBR0836M01-T
Vab, Vae
Z803
DUPLEX
FILTER
GNDPINS= GND
CEL_LNA_IN
N800
CX20504
D(2:0)
VBAT
VBATTRF
L810
42R/100MHz
C810
10n
C818
10U
C805
10U
EP
M0
M1
VBGAP
FB
VDD
VSS
BYPVOUT
VSW
NC
GSW
17= GND
Pin 16 ISOLATED GND
L800
2u7H
C817
100p
C808
10u
R821
47k
TEMP_SENS

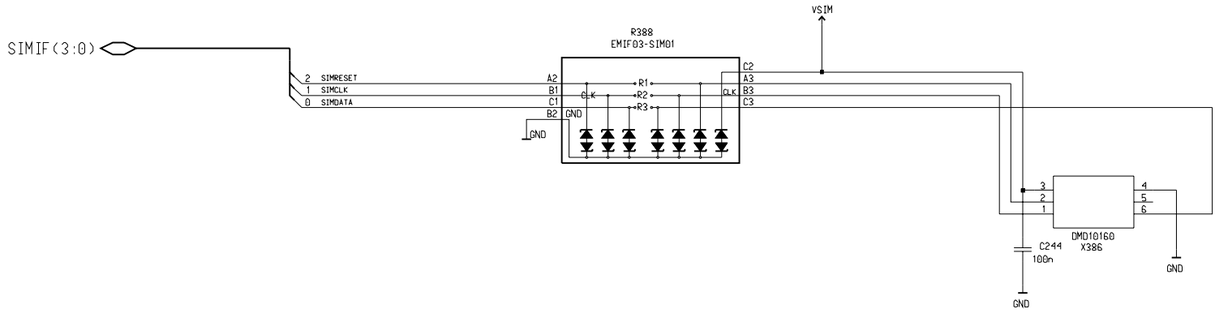
RF-BB Interface



RF - Top


JEDI
DET_IN
DET_REF
TX_GATE
TX_IF_AGC
TX_IN
TX_IP
TX_QN
TX_QP
TX_RF_AGC
UHFCP
JEDI_LO
RF_CLK
RF_EN1X
JEDI_19.2MHZ
RF_DATA
PA_CELL
PA_PCS
DET_OUT
COMPONENTS 600-699
PA
DET_IN
DET_REF
TX_GATE
PA_CELL
PA_PCS
D(2:0)
ANTENNA
TEMP_SENS
PCS_LNA_IN
CEL_LNA_IN
COMPONENTS 800-849
SYNTHESIZER
BAND_SEL
UHF_CP
AFC_DAC
JEDI_LO
JEDI_19.2MHZ
19.2MHZ
VCO_RX
COMPONENTS 500-549
YODA
RF_DATA
19.2MHZ
RF_EN1X
RF_CLK
RF_BAND_SEL
BAND_SEL
19.2MHZOUT
19.2MHZOUT_GPS
RX_IN
RX_IP
RX_QN
RX_QP
IF_CDMA
RX_SW1
RX_IF_AGC
VREFRF01
COMPONENTS 700-799
ALFRED
FRONT_END
RF_BAND_SEL
IF_CDMA
RX_SW1
VCO_RX
PCS_LNA_IN
CEL_LNA_IN
COMPONENTS 900-949
RF_BAND_SEL
CEL_LNA_IN
PCS_LNA_IN
RX_IF_AGC
VREFRF01
RF

SIM



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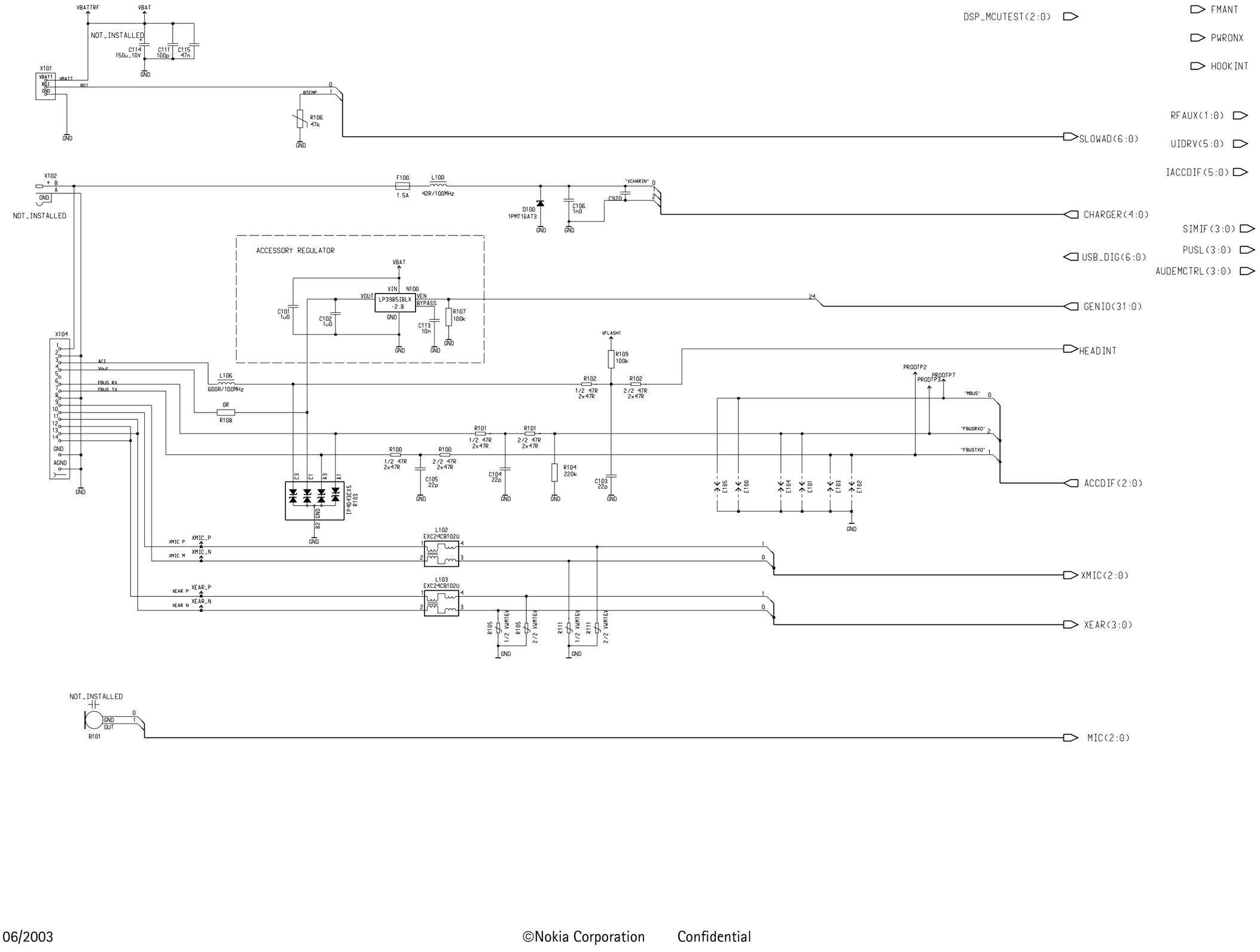
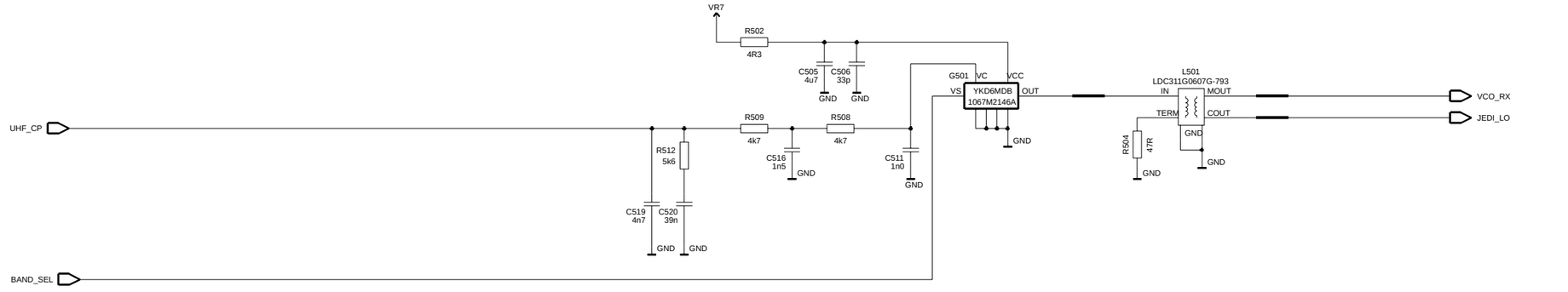
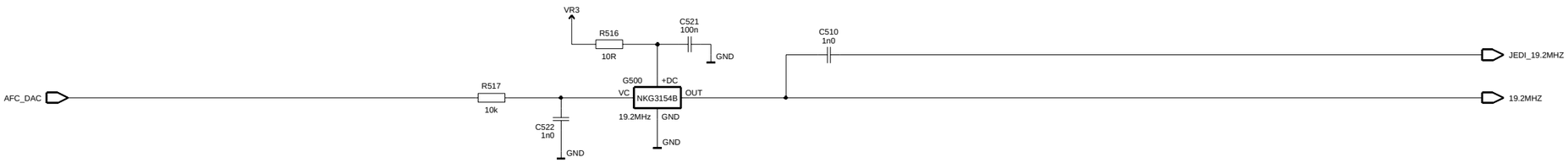
System Connector



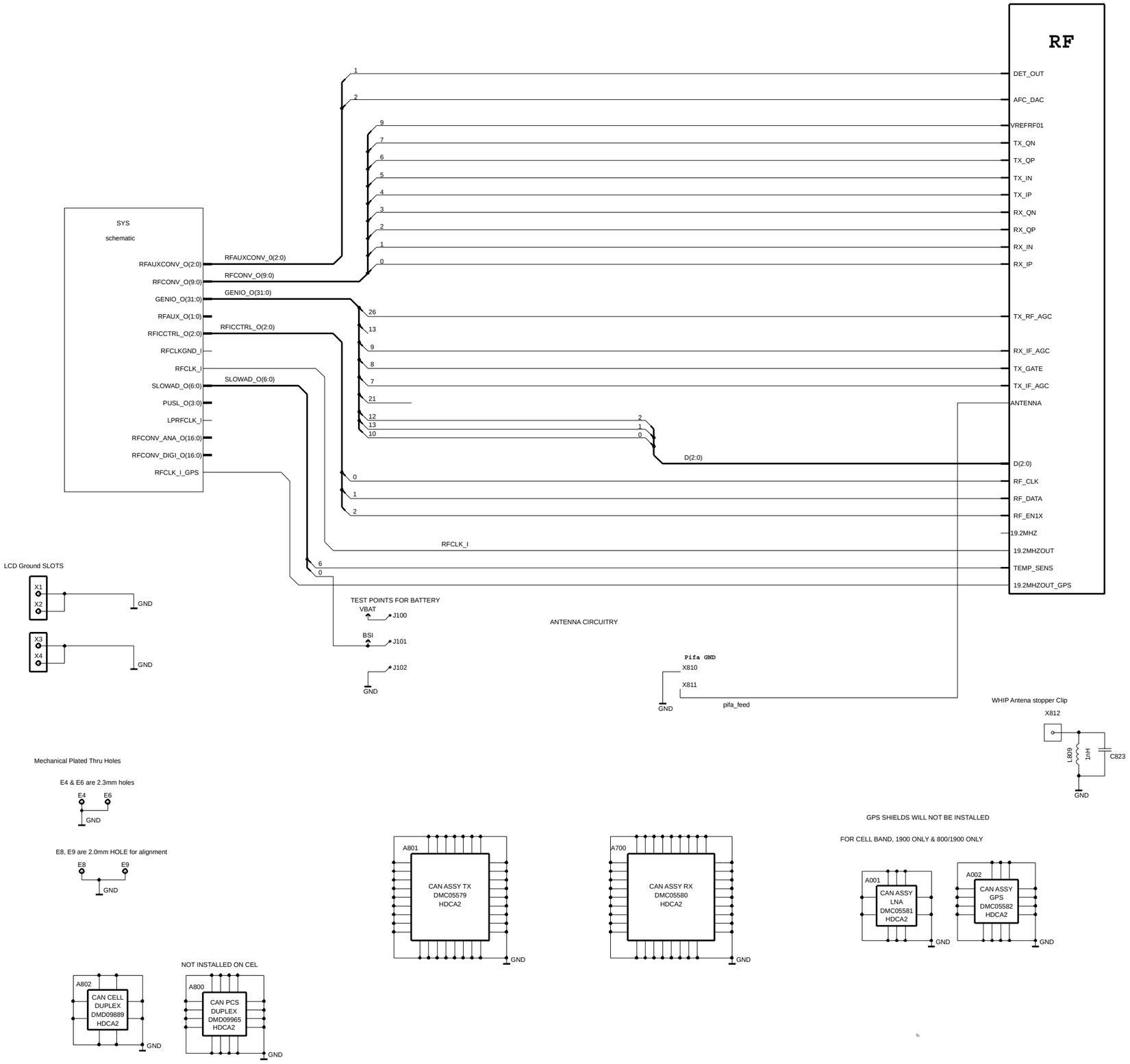
Synthesizer



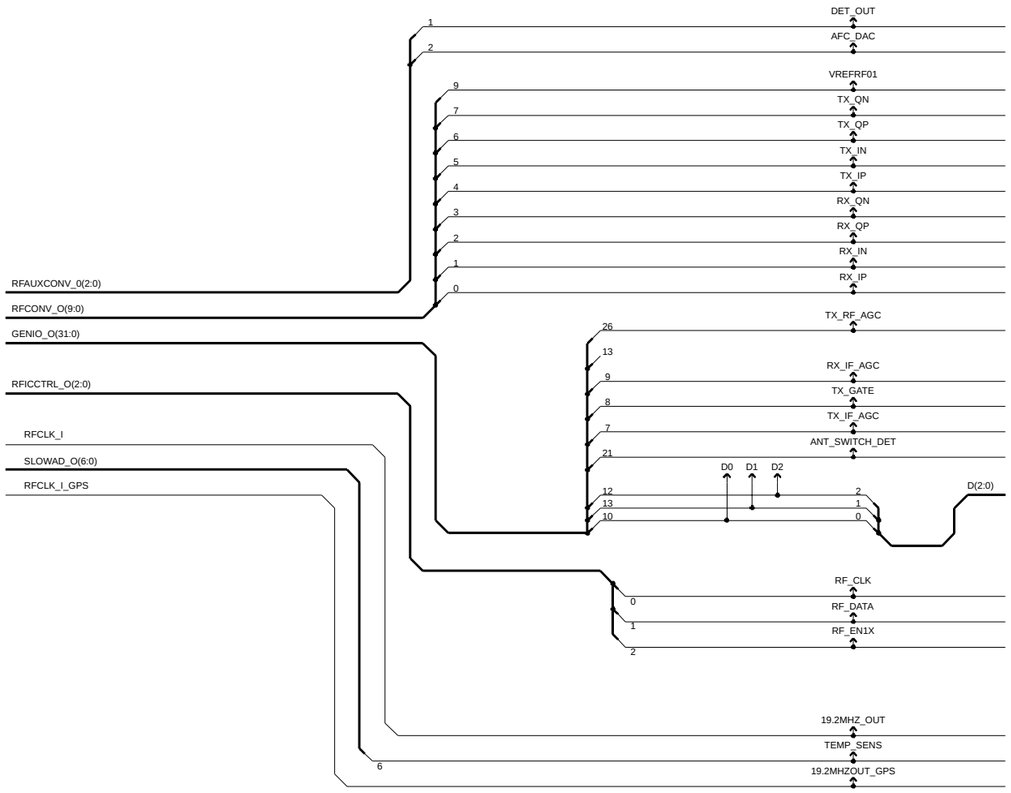


SYNTH

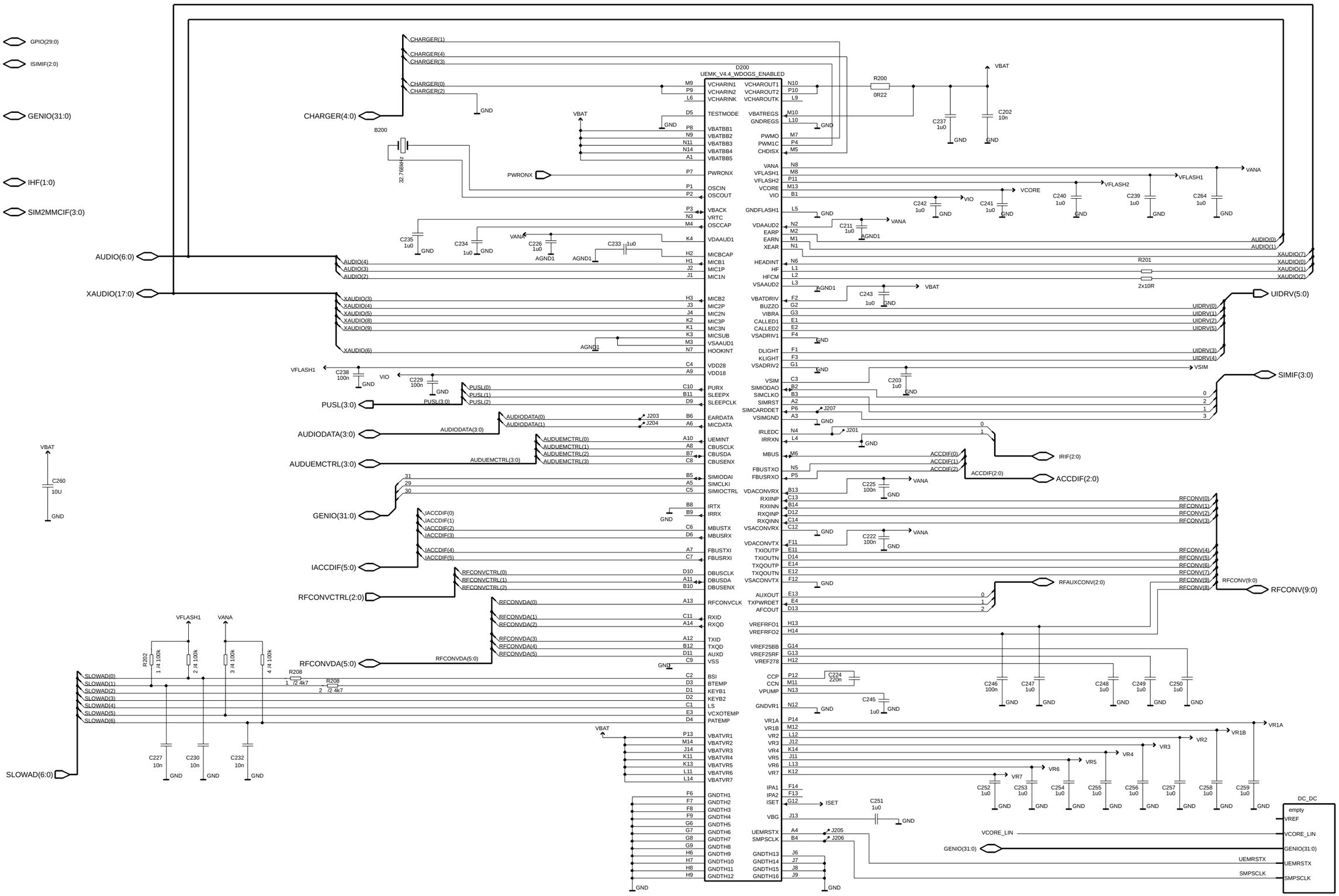
Top - View 1


RF
DET_OUT
AFC_DAC
VREFRF01
TX_QN
TX_QP
TX_IN
TX_IP
RX_QN
RX_QP
RX_IN
RX_IP
TX_RF_AGC
RX_IF_AGC
TX_GATE
TX_IF_AGC
ANTENNA
D(2:0)
RF_CLK
RF_DATA
RF_EN1X
19.2MHZ
19.2MHZOUT
TEMP_SENS
19.2MHZOUT_GPS
SYS
schematic
RFAUXCONV_O(2:0)
RFCONV_O(9:0)
GENIO_O(31:0)
RFAUX_O(1:0)
RFICCTRL_O(2:0)
RFCLKGND_I
RFCLK_I
SLOWAD_O(6:0)
PUSL_O(3:0)
LPRFCLK_I
RFCONV_ANA_O(16:0)
RFCONV_DIGI_O(16:0)
RFCLK_I_GPS
RFAUXCONV_0(2:0)
RFCONV_O(9:0)
GENIO_O(31:0)
RFICCTRL_O(2:0)
SLOWAD_O(6:0)
RFCLK_I
LCD Ground SLOTS
X1
X2
X3
X4
GND
TEST POINTS FOR BATTERY
VBAT
J100
BSI
J101
J102
ANTENNA CIRCUITRY
Pifa GND
X810
X811
pifa_feed
WHIP Antena stopper Clip
X812
L809
1nH
C823
Mechanical Plated Thru Holes
E4 & E6 are 2.3mm holes
E4
E6
E8, E9 are 2.0mm HOLE for alignment
E8
E9
NOT INSTALLED ON CEL
A802
CAN CELL DUPLEX DMD09889 HDCA2
A800
CAN PCS DUPLEX DMD09965 HDCA2
A801
CAN ASSY TX DMC05579 HDCA2
A700
CAN ASSY RX DMC05580 HDCA2
GPS SHIELDS WILL NOT BE INSTALLED
FOR CELL BAND, 1900 ONLY & 800/1900 ONLY
A001
CAN ASSY LNA DMC05581 HDCA2
A002
CAN ASSY GPS DMC05582 HDCA2

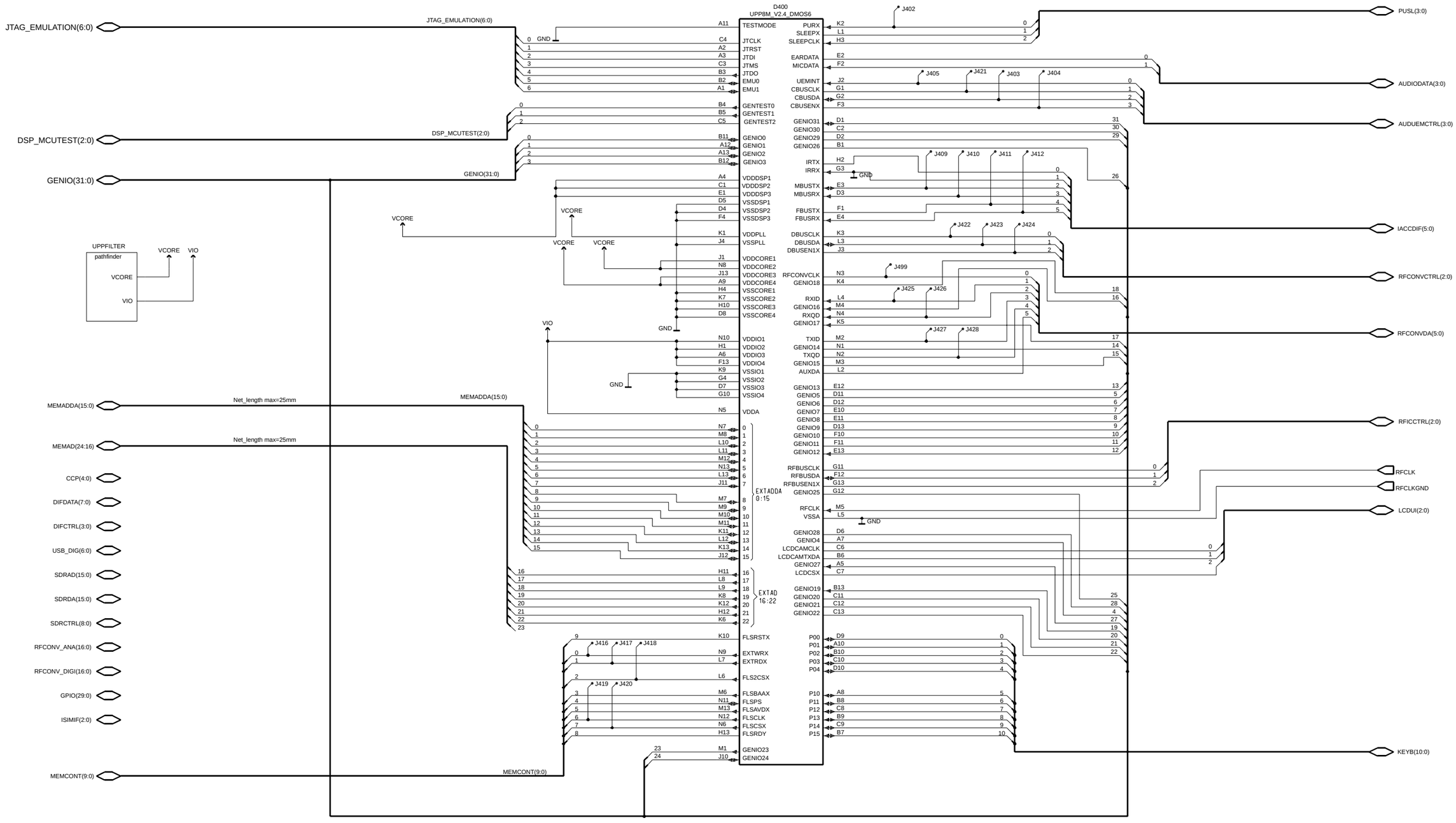
Top - View 2


DET_OUT
AFC_DAC
VREFRF01
TX_QN
TX_QP
TX_IN
TX_IP
RX_QN
RX_QP
RX_IN
RX_IP
TX_RF_AGC
RX_IF_AGC
TX_GATE
TX_IF_AGC
ANT_SWITCH_DET
D0
D1
D2
D(2:0)
RF_CLK
RF_DATA
RF_EN1X
19.2MHZ_OUT
TEMP_SENS
19.2MHZOUT_GPS
RFAUXCONV_0(2:0)
RFCONV_O(9:0)
GENIO_O(31:0)
RFICCTRL_O(2:0)
RFCLK_I
SLOWAD_O(6:0)
RFCLK_I_GPS

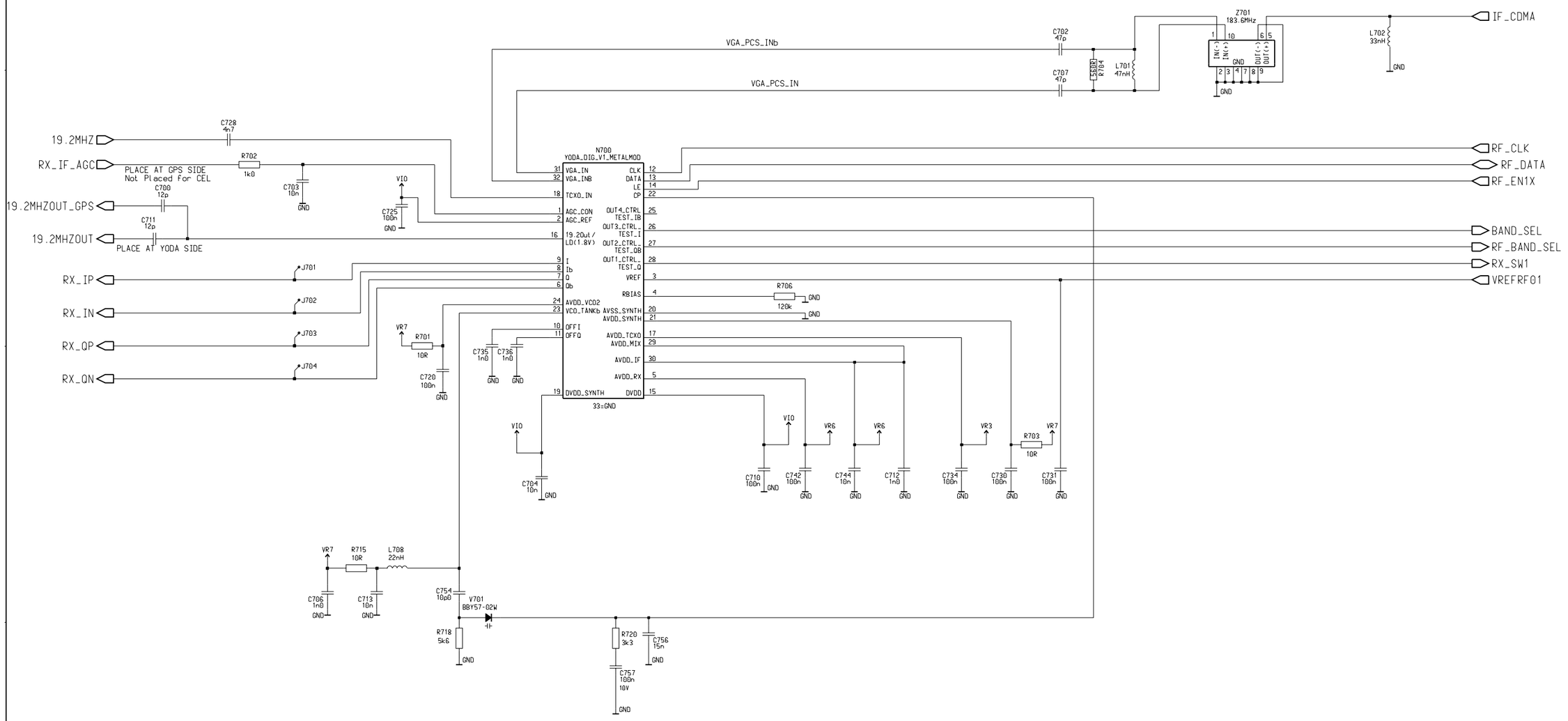
UEM


GPIO(29:0)
ISIMIF(2:0)
GENIO(31:0)
IHF(1:0)
SIM2MMCIF(3:0)
AUDIO(6:0)
XAUDIO(17:0)
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
SLOWAD(6:0)
CHARGER(4:0)
D200
UEMK_V4.4_WDOGS_ENABLED
B200
32.768kHz
PWRONX
VBAT
VANA
VFLASH1
VFLASH2
VCORE
VIO
R200
0R22
C202 10n
C237 1u0
C235 1u0
C234 1u0
C226 1u0
C233 1u0
C238 100n
C229 100n
C242 1u0
C241 1u0
C240 1u0
C239 1u0
C264 1u0
C211 1u0
C243 1u0
C203 1u0
C225 100n
C222 100n
C224 220n
C245 1u0
C246 100n
C247 1u0
C248 1u0
C249 1u0
C250 1u0
C252 1u0
C253 1u0
C254 1u0
C255 1u0
C256 1u0
C257 1u0
C258 1u0
C259 1u0
C260 10U
C227 10n
C230 10n
C232 10n
R201
2x10R
R202 1 /4 100k
2 /4 100k
3 /4 100k
4 /4 100k
R208 1 /2 4k7
R208 2 /2 4k7
AGND1
GND
UIDRV(5:0)
SIMIF(3:0)
IRIF(2:0)
ACCDIF(2:0)
RFCONV(9:0)
RFAUXCONV(2:0)
VR1A
VR1B
VR2
VR3
VR4
VR5
VR6
VR7
J201
J203
J204
J205
J206
J207
DC_DC
empty
VREF
VCORE_LIN
GENIO(31:0)
UEMRSTX
SMPSCLK

UPP

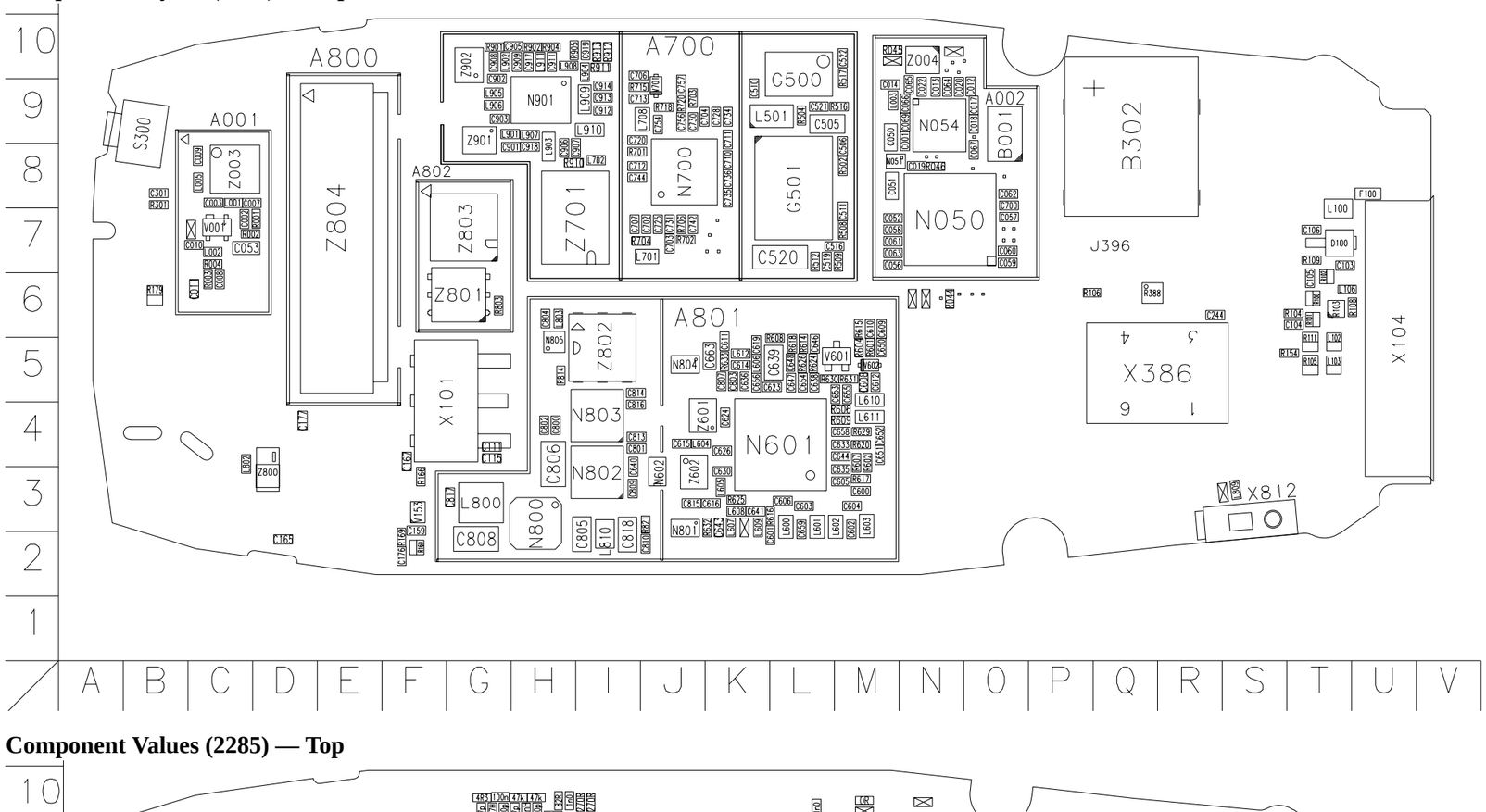

D400
UPP8M_V2.4_DMOS6
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
GENIO(31:0)
MEMADDA(15:0)
MEMAD(24:16)
CCP(4:0)
DIFDATA(7:0)
DIFCTRL(3:0)
USB_DIG(6:0)
SDRAD(15:0)
SDRDA(15:0)
SDRCTRL(8:0)
RFCONV_ANA(16:0)
RFCONV_DIGI(16:0)
GPIO(29:0)
ISIMIF(2:0)
MEMCONT(9:0)
Net_length max=25mm
UPPFILTER
pathfinder
VCORE
VIO
GND
TESTMODE
JTCLK
JTRST
JTDI
JTMS
JTDO
EMU0
EMU1
GENTEST0
GENTEST1
GENTEST2
GENIO0
GENIO1
GENIO2
GENIO3
VDDDSP1
VDDDSP2
VDDDSP3
VSSDSP1
VSSDSP2
VSSDSP3
VDDPLL
VSSPLL
VDDCORE1
VDDCORE2
VDDCORE3
VDDCORE4
VSSCORE1
VSSCORE2
VSSCORE3
VSSCORE4
VDDIO1
VDDIO2
VDDIO3
VDDIO4
VSSIO1
VSSIO2
VSSIO3
VSSIO4
VDDA
EXTADDA 0:15
EXTAD 16:22
FLSRSTX
EXTWRX
EXTRDX
FLS2CSX
FLSBAAX
FLSPS
FLSAVDX
FLSCLK
FLSCSX
FLSRDY
GENIO23
GENIO24
PURX
SLEEPX
SLEEPCLK
EARDATA
MICDATA
UEMINT
CBUSCLK
CBUSDA
CBUSENX
GENIO31
GENIO30
GENIO29
GENIO26
IRTX
IRRX
MBUSTX
MBUSRX
FBUSTX
FBUSRX
DBUSCLK
DBUSDA
DBUSEN1X
RFCONVCLK
GENIO18
RXID
GENIO16
RXQD
GENIO17
TXID
GENIO14
TXQD
GENIO15
AUXDA
GENIO13
GENIO5
GENIO6
GENIO7
GENIO8
GENIO9
GENIO10
GENIO11
GENIO12
RFBUSCLK
RFBUSDA
RFBUSEN1X
GENIO25
RFCLK
VSSA
GENIO28
GENIO4
LCDCAMCLK
LCDCAMTXDA
GENIO27
LCDCSX
GENIO19
GENIO20
GENIO21
GENIO22
P00
P01
P02
P03
P04
P10
P11
P12
P13
P14
P15
J402
J405
J421
J403
J404
J409
J410
J411
J412
J422
J423
J424
J499
J425
J426
J427
J428
J416
J417
J418
J419
J420
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
RFICCTRL(2:0)
RFCLK
RFCLKGND
LCDUI(2:0)
KEYB(10:0)

Yoda

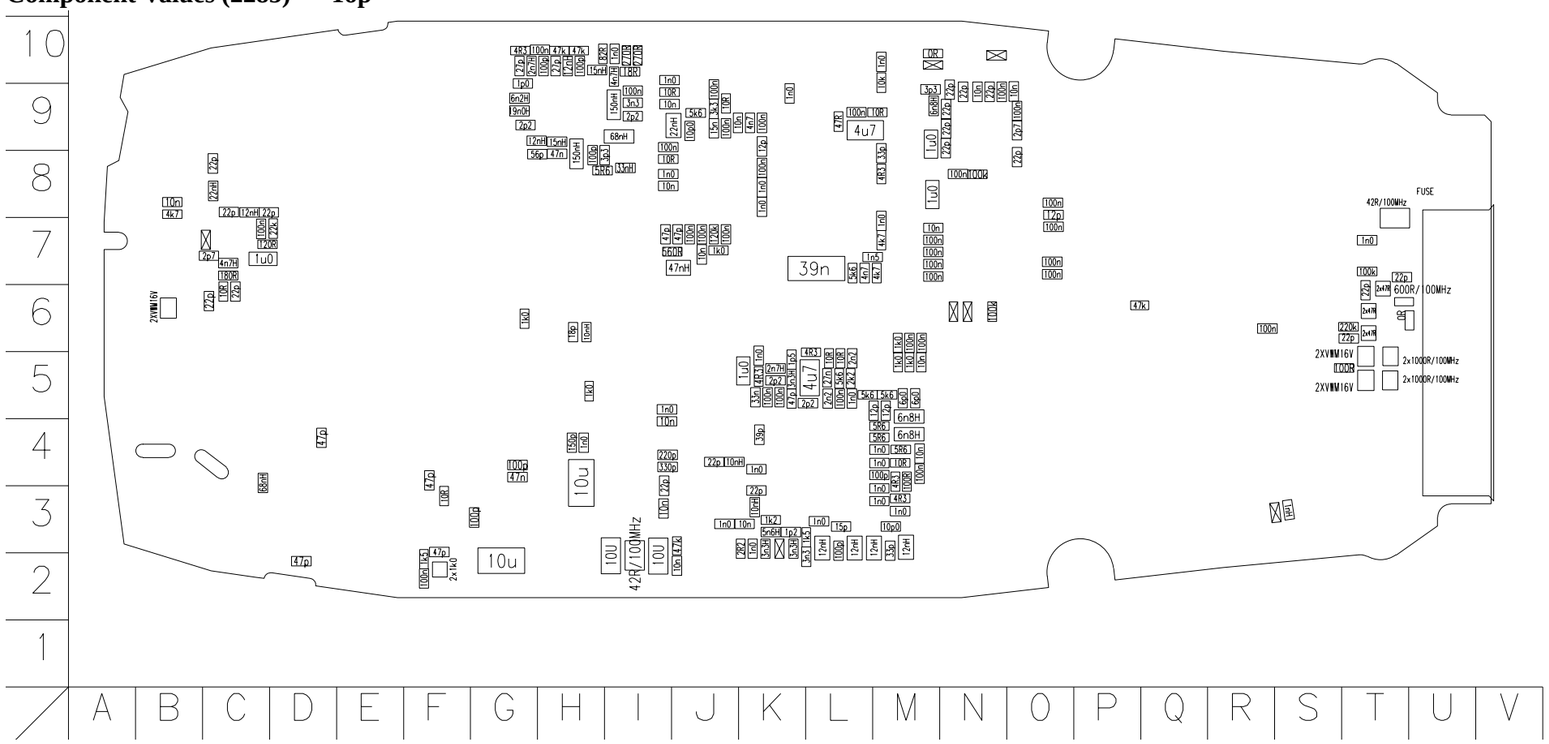

IF_CDMA
VGA_PCS_INb
VGA_PCS_IN
Z701
183.6MHz
L702
33nH
C702
47p
C707
47p
L701
47nH
19.2MHZ
C728
4n7
RX_IF_AGC
PLACE AT GPS SIDE
Not Placed For CEL
R702
1k0
C703
10n
19.2MHZOUT_GPS
C700
12p
C711
12p
19.2MHZOUT
PLACE AT YODA SIDE
C725
100n
VIO
N700
YODA_DIG_V1_METALMOD
VGA_IN
VGA_INB
TCXO_IN
AGC_CON
AGC_REF
19.2Out / LDO(1.8V)
I
Ib
Q
Qb
AVDD_VCO2
VCO_TANKb
OFFI
OFFQ
DVDD_SYNTH
33=GND
CLK
DATA
LE
CP
OUT4_CTRL
TEST_IB
OUT3_CTRL_
TEST_I
OUT2_CTRL_
TEST_QB
OUT1_CTRL_
TEST_Q
VREF
RBIAS
AVSS_SYNTH
AVDD_SYNTH
AVDD_TCXO
AVDD_MIX
AVDD_IF
AVDD_RX
DVDD
RF_CLK
RF_DATA
RF_EN1X
BAND_SEL
RF_BAND_SEL
RX_SW1
VREFRF01
R706
120k
RX_IP
RX_IN
RX_QP
RX_QN
J701
J702
J703
J704
VR7
R701
10R
C720
100n
C735
1n0
C736
1n0
C704
10n
C710
100n
C742
100n
C744
10n
C712
1n0
C734
100n
C730
100n
C731
100n
VR6
VR3
R703
10R
VR7
R715
10R
L708
22nH
C706
1n0
C713
10n
C754
10p0
V701
BBY57-02W
R718
5k6
R720
3k3
C756
15n
C757
100n
10V
GND

YODA

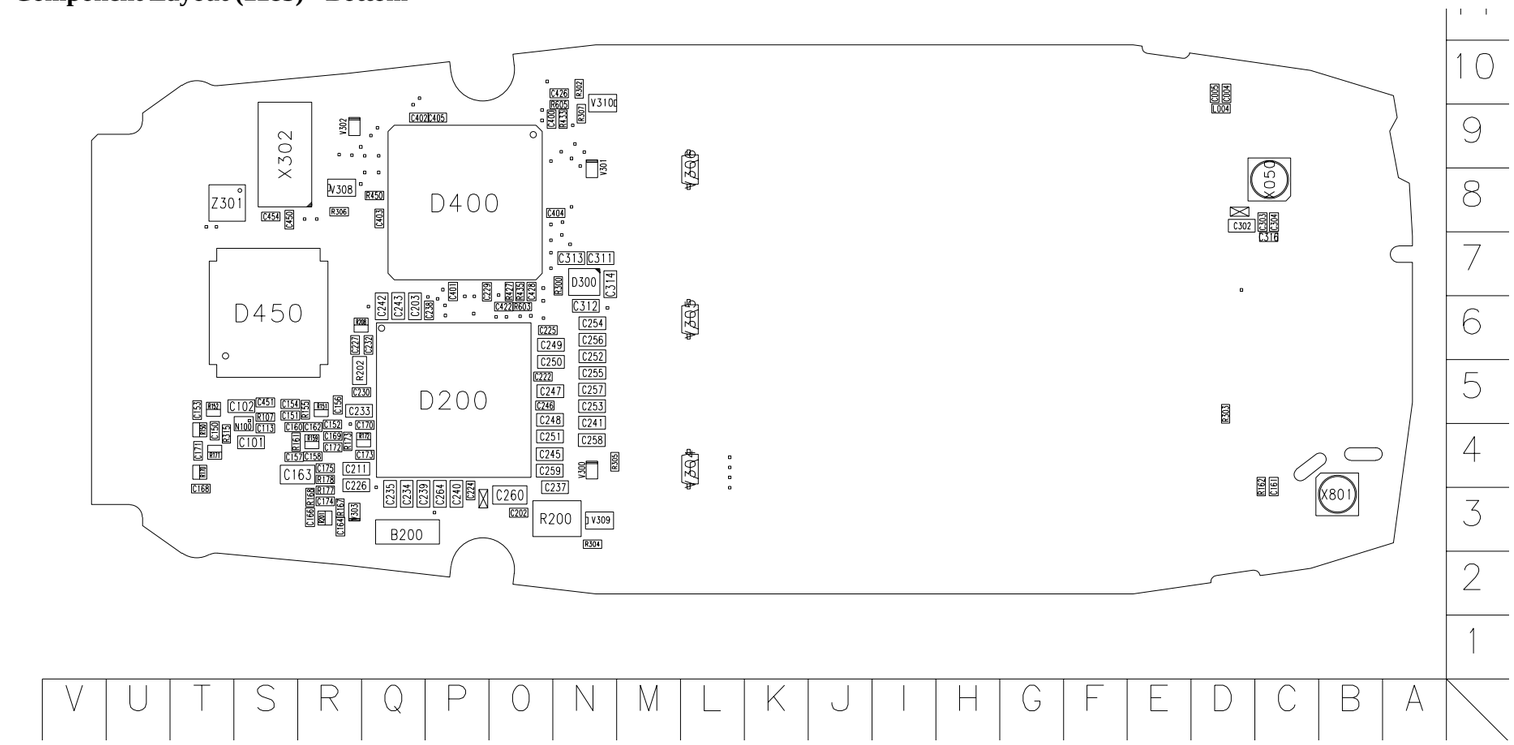
Component Layout (2285) — Top



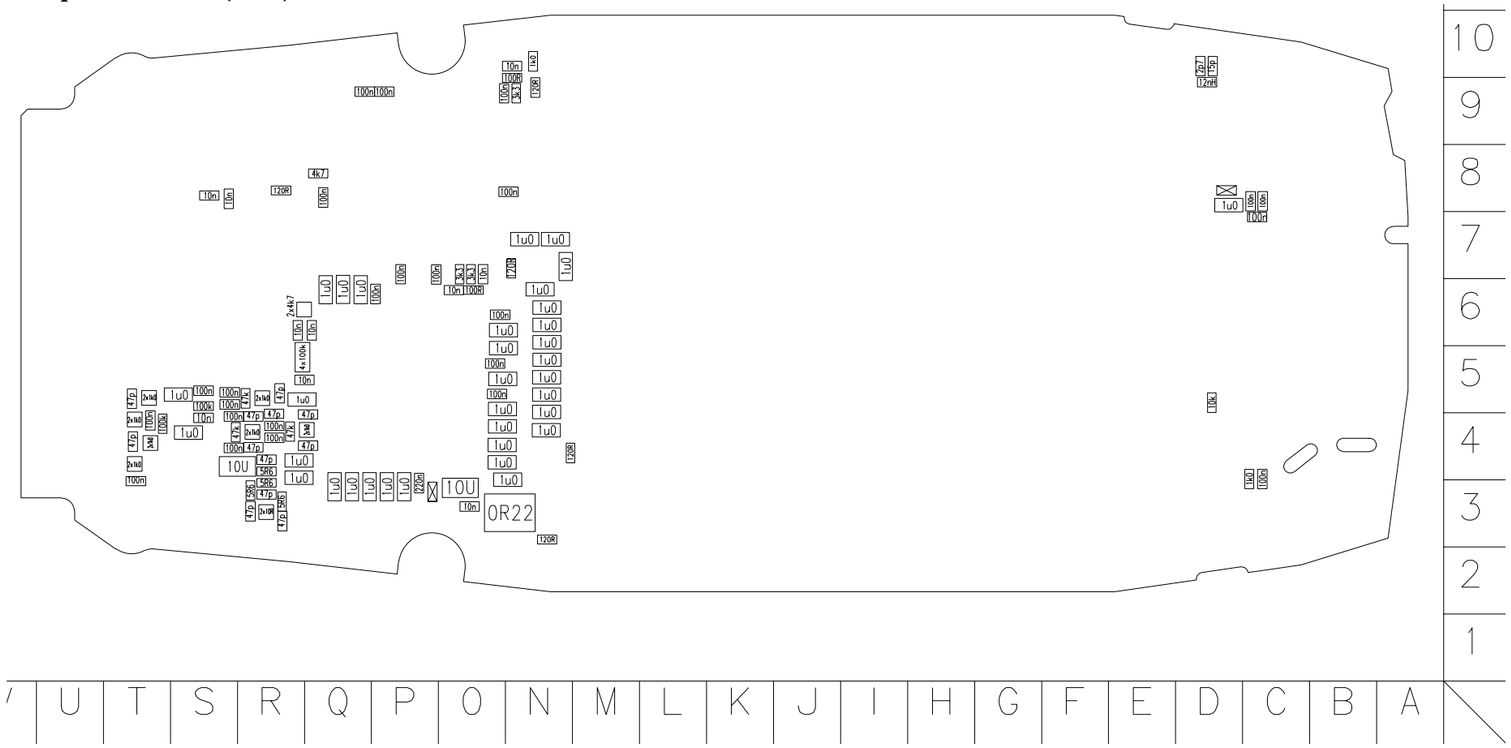
Component Values (2285) — Top



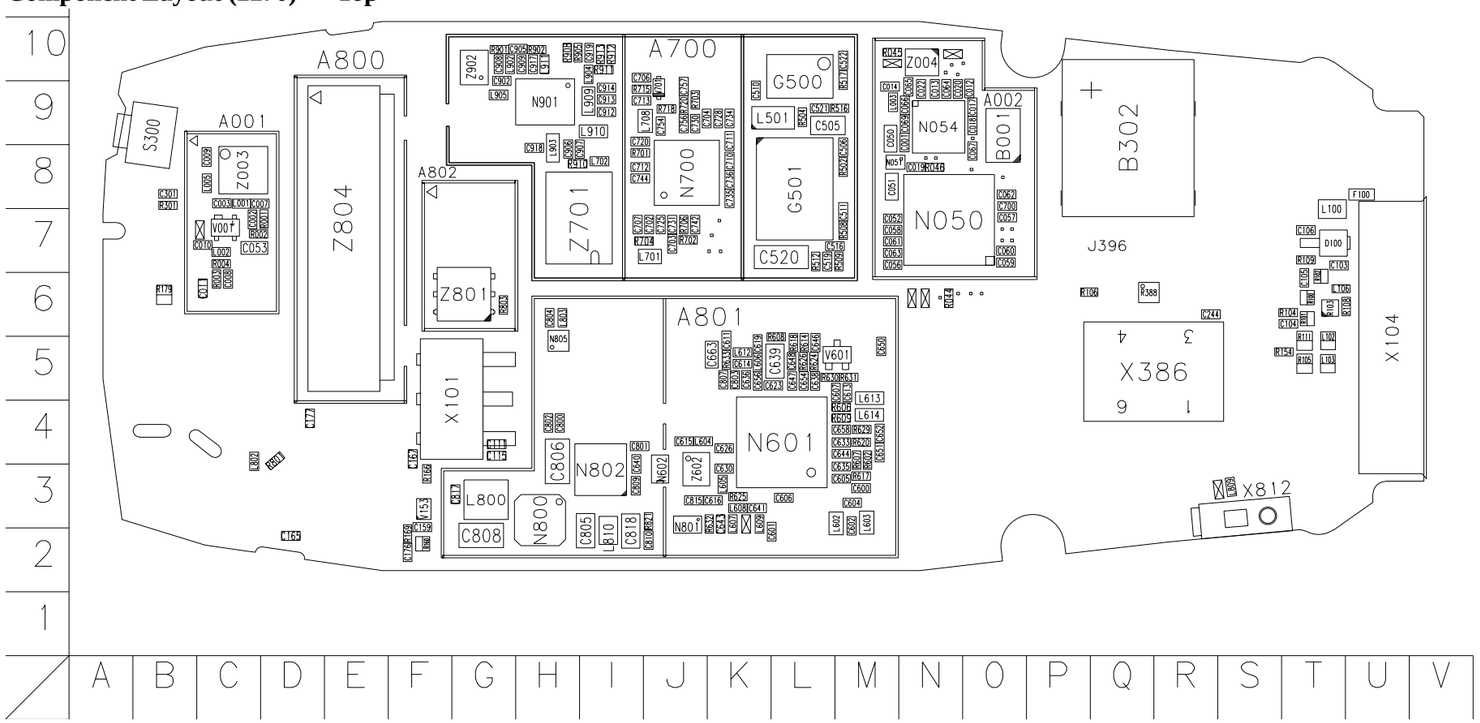
Component Layout (2285) - Bottom



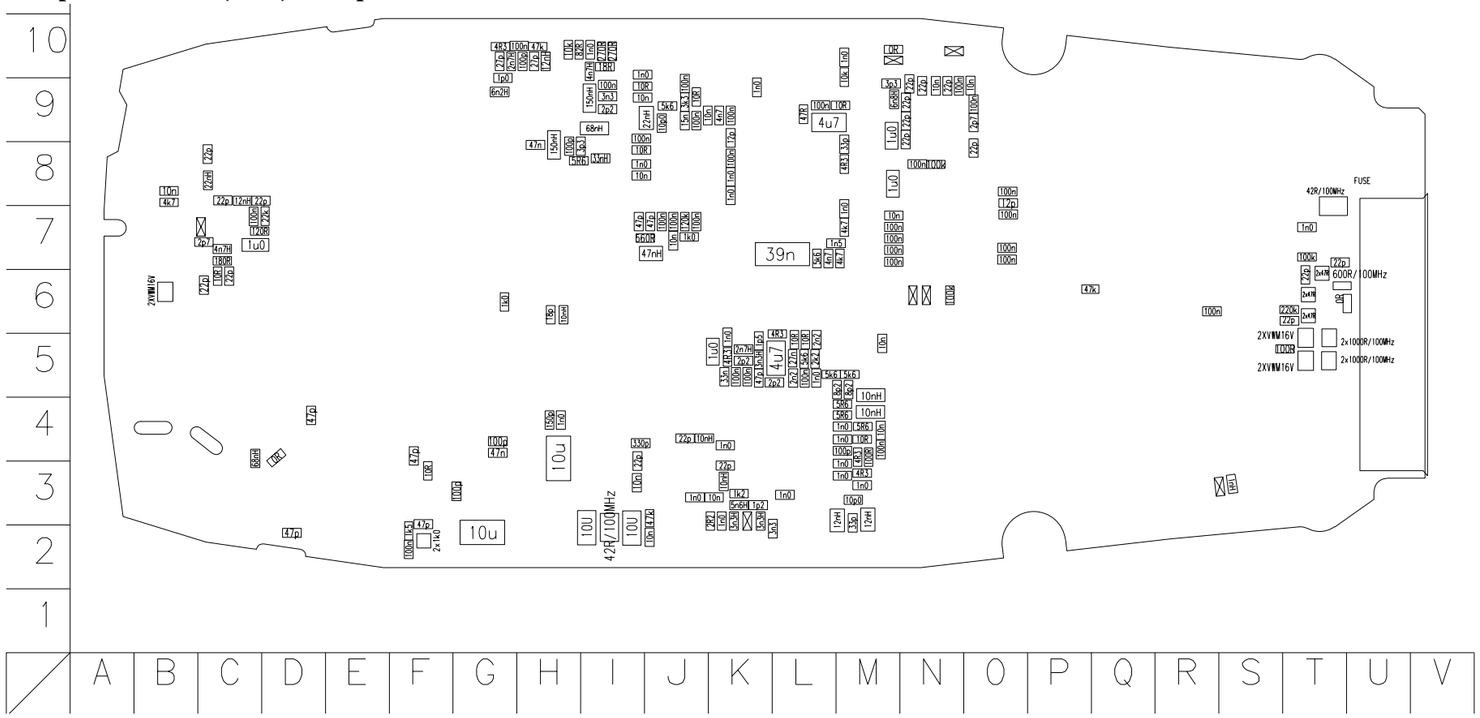
Component Values (2285) — Bottom



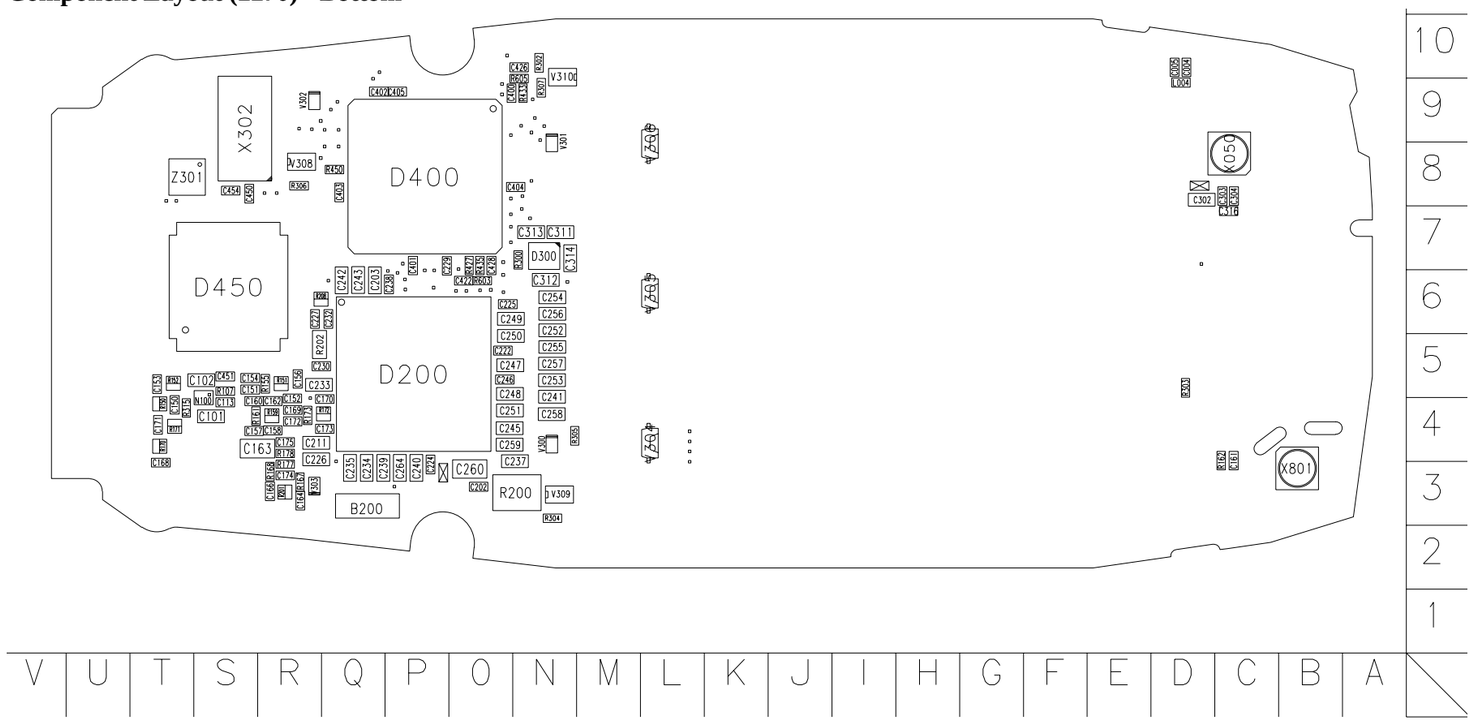
Component Layout (2270) — Top



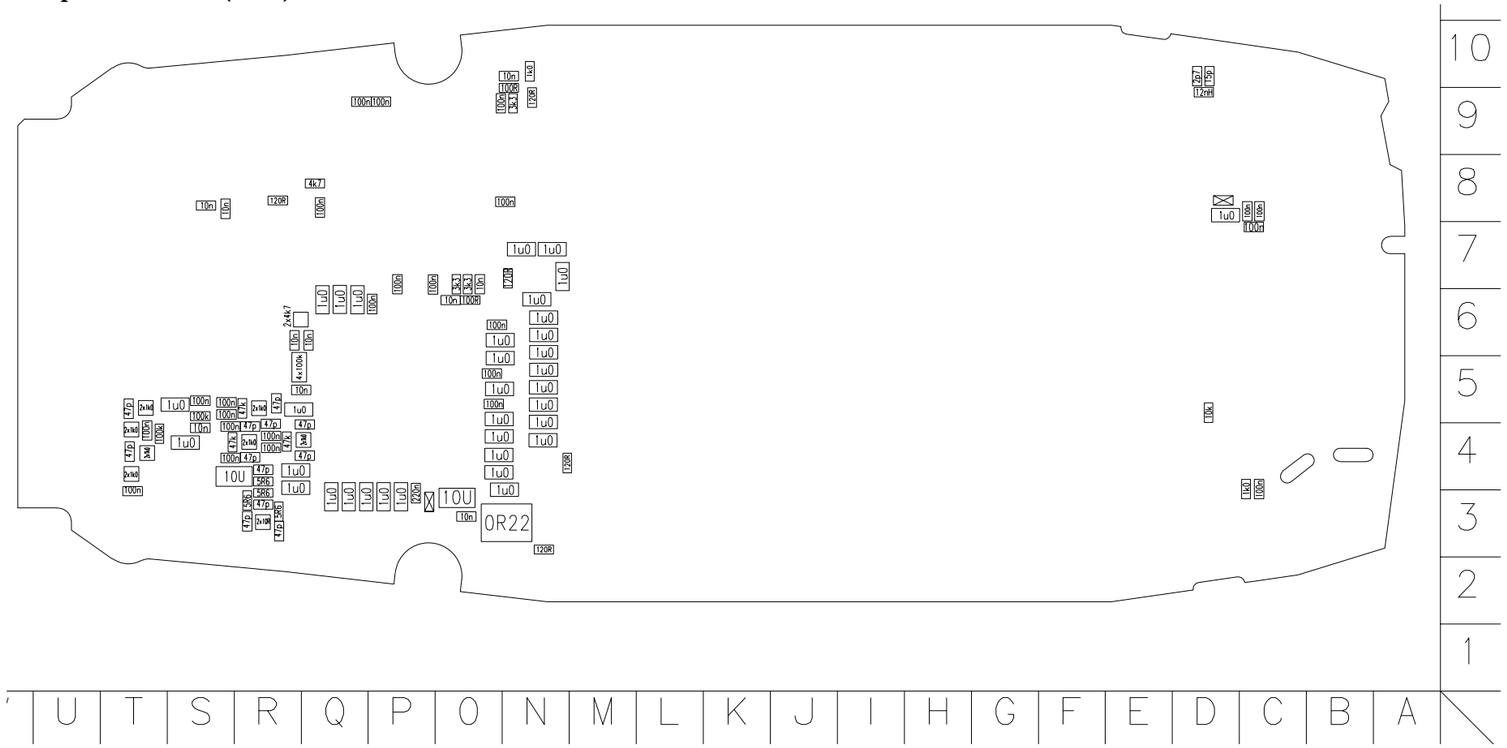
Component Values (2270) — Top



Component Layout (2270) - Bottom

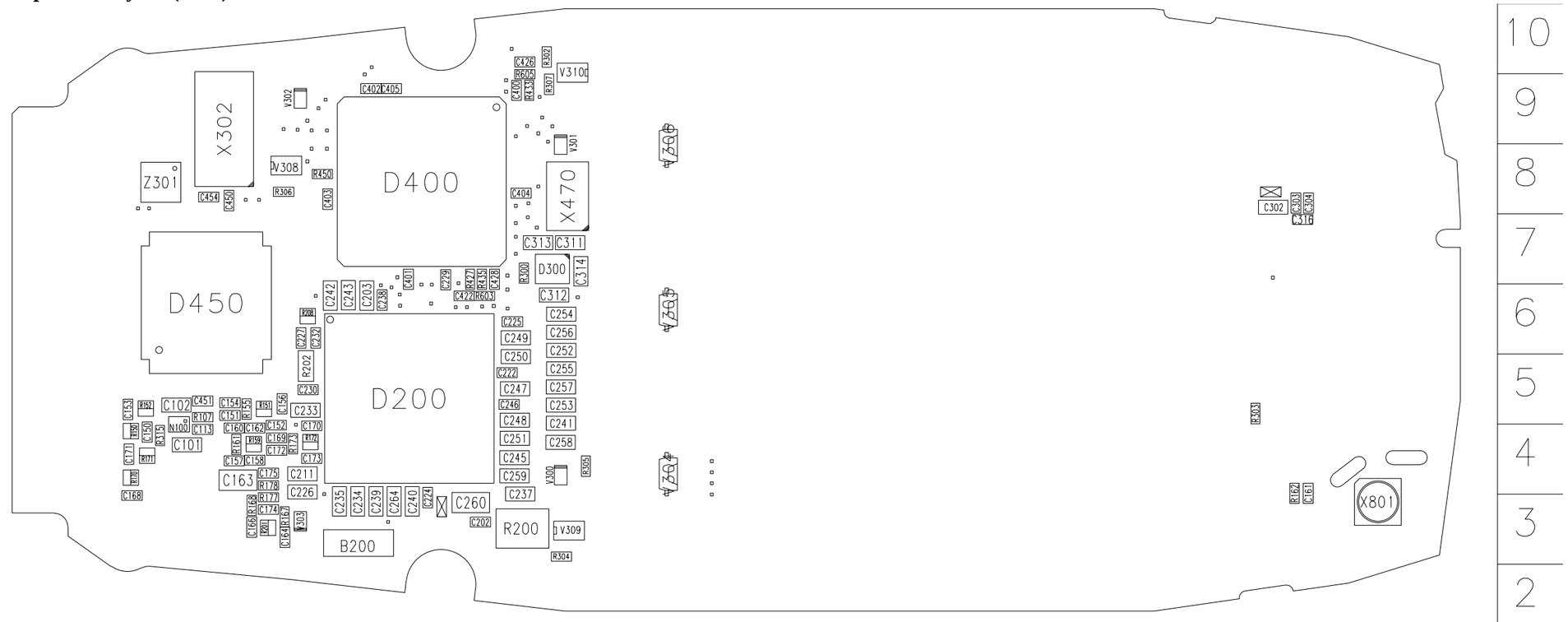


Component Values (2270) — Bottom

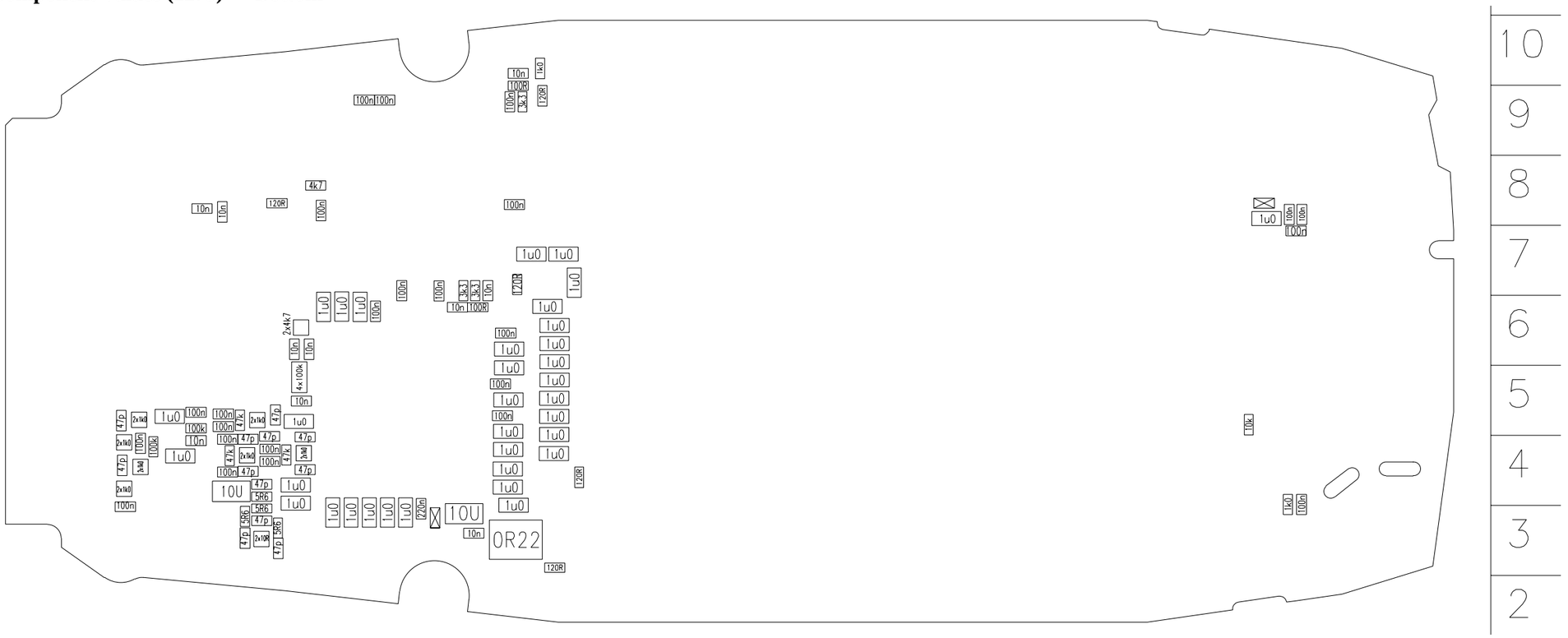


Component Layout (2275) — Top

Component Layout (2275) — Bottom



Component Values (2275) — Bottom



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